e Itliming Iournal, MMERCI

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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o. 2061.—Vol. XLV.

LONDON, SATURDAY, FEBRUARY 20, 1875.

SUPPLEMENT. | PRICE SIXPENCE.

R. JAMES H. CROFTS, STOCK AND SHARE BROKER, No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

Established 1842.

Figs. 1 all descriptions of MINING Stocks and Shares (British reign), Banks, Bonds, Railways, Miscellaneous, Insurance, Assurance, Gas, and Dook Shares.

EINESS in all COLLIENY and Inox Shares.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

CIAL DEALINGS in the following or any part:—20 Bampfylde, 36s.; 20 Bilson, 50 Cardiff and Bwansea, £4 10s.; 15 Cedar Creek; 100 Chapel House, £6 (cam div.); 75 Don Pedro, 9s.; 20 Diamond Fuel; 30 Glaisdale Quarry; 16 Run; 20 Grogwinion, £3%; 20 Hooper's Telegraph; 100 Malpaso, 17s. 5d.; vali; 20 Langdale Chemical; 50 Lawes ditto, £5½; 50 Live Stock Iusurance, 4 Naaty-Glo; 5 Newport Abercarn, £4; 100 Old Treburgett (ordinary), 8s.; 78 Montain, 5s. 6d.; 50 Penstruthal, 12s. 3d.; 100 Positive Assurance, 41; 30 Rookhope; 10 Thorp's Gawber, £13½ (cum div.); 10 Tankerville, 10 Van Consols, £2; 25 West Mostyn, £2½; 20 West Tankerville, 22s. 6d.; estminster Brewery (paying 6 per cent.), fully paid, £4 2s. 6d. SHARES SOLD FOR FORWARD DELIVERY (one or two months) ON DEPOSIT OF

R CENT. RE.—SPECIAL BUSINESS in CHAPEL HOUSE COLLIERY shares, yielding at pre-prices, npwards of 17 per cent., with every probability of an important increase. JAYALI, OLD TREBURGETT, THORP'S GAWBER, and GLAISDALE QUARRY.

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heads business in MINING and COLLIERY Shares of every description,
he and Foreign Stocks, Colonial Government Bonde, Railways, Banks, and
slaneous Shares, and all Securities dealt in on the London Stock Exchange,
for INVESTMENT or SPECULATION.

Purchases and Sales negociated in Unmarketable Stocks and Shares.
Speculative Accounts opened for the Fortnightly Settlement.
References given and required when necessary.
Stock and Share List forwarded to bona fide Investors free on application.

Bankers: The National Provincial Bank of England, E.C.

Bankers: The National Provincial Bank of England, E.C.

H. B. has 8PECIAL BUSINESS in the undermentioned:

75 Gold Run, 15s.

25 Ladywell, £3½.

26 Ladywell, £3½.

27 Malpas, 15s.

28 Ladywell, £3½.

28 Ladywell, £3½.

29 Marke Valley, 24s. 6d.

20 Marke Valley, 24s. 6d.

21 Tincroft, £2¼.

22 Tincroft, £2¼.

23 New Consols, £2½ Ls.

25 New Quebrada, £3139

20 New Consols, £2½.

25 New Quebrada, £3139

20 New Consols, £2½.

25 Prince Patrick.

26 Prince Patrick, 18s.

26 Dentyrell, £3½.

27 Tincroft, £2¼.

28 New Quebrada, £3139

20 New Consols, £2½.

28 New Quebrada, £3139

29 New Consols, £2½.

20 W. Great Work, £1.

40 West Tankerville, 21s.

50 Van Consols, £2.

20 W. Great Work, £1.

40 West Tankerville, 24 Se.

20 W. Chrestroto, £2 Se.

21 Tincroft, £2¾.

22 Tincroft, £2¾.

23 Tincroft, £2¾.

24 Tincroft, £2¾.

25 Tincroft, £2¾.

25 Tincroft, £2¾.

26 Sectiand Crk., £2¾.

27 Tincroft, £2¾.

28 New Consols, £2½.

28 New Gord Patrick.

29 New Consols, £2½.

20 W. Great Work, £1.

28 New Consols, £2½.

29 W. Chrestroto, £3 Se.

20 W. Chiverton, £2 Se.

21 West Tankerville, £4 Se.

22 Tincroft, £2¼.

28 Se. Condurrow, £4 189.

29 Se. Condurrow, £4 189.

20 Se. Devolution, £5 Se.

21 Tincroft, £2¼.

22 Tincroft, £2¼.

23 Tincroft, £2¼.

24 Tincroft, £2¼.

25 Tincroft, £2¼.

26 Seetland Crk., £2¼.

26 Seetland Crk., £2¼.

27 Tincroft, £2¼.

28 New Quebrada, £3 189.

29 Se. Condurrow, £4 189.

20 Se. Condurrow, £4

TR. E. J. BARTLETT, STOCK AND SHARE DEALER, No. 30, GREAT 5T. HELEN'S, LONDON, E.C., has SPECIAL BUSI 55, at the closest prices, in— MINERA (Buyer), and PRINCE PATRICK SHARES.

OHN RISLEY (SWORN), STOCK AND SHARE BROKER, 17, CORNHILL, LONDON.

Turkish Six Per Cents. of 1854, 1858, 1862, 1865, 1871, and 1873 specially recomended; Wheal Grenville and Treleigh Wood, also Wheal Peevor and Crebo usiness transacted at the following rates of commission:—Foreign Stocks, ½ per t; and Mining Shares of £4 each and upwards, 1½ per cent.; under £4, 1s.

TERDINAND R. KIRK, STOCK BROKER, 5, BIRCHIN LANE, E.C. consols, Foreign Bonds, Railways, and every security quoted on 'Change bough

Bankers: London and Westminster, and City Bank.

SPECIAL BUSINESS in the following:
Blion and Crump,
Blion and Crump,
Bagnall, John.
Beller's Wharf.
Brighton Aquarium,
Cardiff and Swansea.
Chapel House.
Central Swedish.
City Offices.
Diamond Rock,
Diamond Rock,
Diamond Fuel.

OFFERS WANTED FOR— Diamond Rock.
Diamond Fuel.
OFFERS WANTED FOR

New Sharlston. Pawson and Co. Peninsular & Oriental. Phosphate Sewage. Richards and Co. Silkstone Fall. Thorp's Gawber. Whitehaven. West Mostyn. Welsh Freehold.

N-Mewfoundland Lead. South Cleveland. Silkstone Fall. United Bituminous. West Mostyn.

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snares.

J. M. and Co. strongly advise the immediate purchase of North Prince Patrick lares, as a great rise is certain. We have just inspected this mine. Report on application.

inightly accounts opened on advantageous terms. ntioned SHARES, at qu

prices, free of commission:
40 Bampfylde, £11/2
30 Birdseye, £33/6
30 Cape Copper, £30,
5 Carn Brea, £55.
50 Chapel House, £4 6: 3
40 Chicago. Chicago. Chontales, 10s. Cedar Creek, 28s. Crenver.
Devon Cons., £21/6.
Don Pedro, 11s. 3d.
Eberhardt, £41/6.

nma, £134.

60 Frontino, 8s.
100 Gold Run, 16s.
20 Great Laxey.
30 Last Chance, £1½.
30 Last Chance, £1½.
30 New Rosario.
40 New Quebrada, £3½.
50 North Prince Patr. 22s.
50 North Prince Patr. 23s.
50 Pedn. an-drea, £2.
40 Pennerley, 31s.
50 Pennerley, 31s.
50 Prince Patrick.
40 New Gosario.
40 North Prince Patr. 23s.
50 Pedn. an-drea, £2.
40 Pennerley, 31s.
50 Prince Patrick.
50 Wasta Chiverton, £3½.
50 Wasta Chiverton, £3½.
50 West Chiverton, £3½.
50 Whithy Gas.
50 Whithy Gas.

Circular for February now ready, and can be had on application. Bankers: The London and County Bank, Lombard-street.

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No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Bstablished
50 Chapel House, 100 Kingston Valley (Lead), 30 Roman Gravels, 25 Alltami,
100 East Harptree, 50 Devon Great Consols, 10 Great Western Colliery, 100 West
Tankrull, 30 Blisca and Crump, 110 Cakemore Colliery, 100 Glaisdale Quarry,
80 West Prechold, 10 Van, 125 Ladywell, 30 Wheal Peevor, 70 Gawton, 200 Gold
Rus, 60 Cedar Creek, 500 Emms, 330 Javali, 255 Frontino, 450 Exchequer, 50 I.X.L.,
85 Riestmond, 150 Elca, 250 Santa Barbara, 100 Tecoma.

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20 Cardiff and Swansea.
20 Ladywell.
21 Thorp's Gawber.
26 Cardiff and Swansea.
27 Ladywell.
28 Wend Peevor.
29 Centrely.
20 Cardiff and Swansea.
20 Ladywell.
30 Chapel House, £4 6s.
30 Old Treburgett.
30 West Tankerville.
30 West Tankerville.
30 Penstruthal.
30 West Chiverton.
30 West Chiverton.
31 West Chiverton.
31 West Chiverton.

deposit of 20 per cent.

Cheques to be crossed Alliance Bank.

MR. T. E. W. THOMAS, SWORN SHARE BROKER, 3, GREAT WINCHESTER STREET BUILDINGS, E.C. Established 1857.

| effected at an intermedia | uvers. | | | Buyers. | Rellers |
|---------------------------|--------|---------|------------------------|---------|-----------|
| Bampfylde | | | Providence | | |
| Birdseye Creek | 214 | 23/4 | Richmond | 71 | 736 |
| Bog | 11s | 128. | Roman Gravels | 1214 | 1234 |
| Bronfloyd | 13/ | 136 | Rosewall Hill | 69 | 78. |
| Carn Brea | 40 | 421/2 | St. Patrick | | |
| Cedar Creek | | | South Condurrow | 416 | |
| Chontales | | | South Prince Patrick | 134 | |
| Cook's Kitchen | 8 | | So. Roman Gravels | 178 | |
| Devon Great Consols | 134 | | Sweetland Creek | 2 | |
| Ding Dong | 51/2 | | Tankerville | 91/8 | |
| Dolcoath | 421/2 | | Tineroft | 23 | 25 |
| East Lovell | 61/ | 63/4 | United Mexican | 3 | |
| Eberhardt | 41/4 | 43/4 | Van | 23 | |
| Emma | 13/4 | 2 | Van Consols | 174 | . 2 |
| Flagstaff | 234 | 2% | West Basset | 614 | |
| Gold Run | 128 | 14s. | West Chiverton | 21/8 | . 23% |
| Javali | | 9s. | West Maria | 5s. 6d | . 6s. 6d. |
| Ladywell | | | West Tankerville | 199 | . 21s. |
| Marke Valley | 23s | 24s. | West Tolgus | 64 | . 66 |
| New Consols | 134 | 2 | Wheal Grenville | | . 43/4 |
| Parys Mountain | | | Wh. Kitty (St. Agnes). | 43/2 | . 43/4 |
| Pennerley | 134 | 15% | Wheal Peevor | 5 | . 51/4 |
| Penstruthal | | | Wheal Uny | 21/2 | . 23/4 |
| Prince of Wales | 7s. 6d | 9s. 6d. | | | |

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M. R. W. MARLBOROUGH, STOCK AND SHARE DEALER, 29, BISHOPSGATE STREET WITHIN, LONDON, E.O. (Established 18 Years), will sell the following SHARES, at prices annexed:—
40 Bampfylde, 338, 6d. 30 Emms, £1/5. 30 Gold Run, 13s. 6d. 40 Javali, 9s. 40 Ja

M. THOMAS THOMPSON, JUN., 1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C. Thompson's "Investment Circular" for February now ready, post free, price 6d.

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MR. HABVEY, of the above firm, having to VISIT the UNITED STATES and CANADA early in February on Special Business, is PREPARED to UNDERTAKE on the same journey OTHER COMMISSIONS to INSPECT and REPORT on MINERAL PROPERTIES, and furnish reliable information.

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25 Bampfylde, £1½. 20 Gunnislake, £1½.
26 Bampfylde, £1½. 20 Gunnislake, £1½.
26 Bridseve Creek, £2½. 50 Malabar, 12s. 6d.
20 Cardiff & Swan., £336. 50 New Fowey Con., 10s. 6
20 Cardiff & Swan., £336. 30 New Sharlston, £5½.
20 Emma, £1½. 30 Old Talargoch, £2.
20 Emma, £1½. 30 Old Talargoch, £2.
20 Emma, £1½. 30 Old Talargoch, £2.
30 Glavin, 9s. 6d. 50 Fyelunamon, 2s. 3d. 50 Wheal Jane, £5.
20 Glasgow Carad., £1½. 40 Rosewall Hill, 6s. 6d. 10 Wheal Allen, 10s. 6d.

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Lectures at the Boyal School of Mines.

THE GEOLOGICAL HISTORY OF SOME OF THE MOUNTAIN CHAINS AND GROUPS OF EUROPE.

Prof. RAMSAY, F.R.S., delivered his sixth and concluding lecture of the course, taking as the special subject the later denudation and waste of the Alps. He first reminded his audience that the Alps upheaved before the date of the Miocene epoch, and which during that epoch suffered enormous waste, which waste had gone to form that epoch suffered enormous waste, which waste had gone to form the Miocene strata; and that subsequently the mountains, together with these latter strata, had undergone a further elevation of 5000 or 6000 ft. He then proceeded:—Above the Miocene strata in our country lie three minor formations, known as the Coralline crag, the Red Crag, and the Norwich crag, and on the coast of Norfolk these are surmounted by what is called the Forest Bed; and above this last lie the beds belonging to the Glacial epoch. These subdivisions of the Pliocene strata are of small thickness, and occur in Norfolk and part of Suffolk, and the interest consists chiefly in the various kinds of sea shells and terrestrial mammalia, about 50 per cent. of the shells being of existing species. The Forest bed shows that forests existed in the area which is now England before the Glacial era. These formations have nothing to do with the phenomena of the Alps which we have to consider, and I mention them only to show that a long time elapsed between the close of the Miocene epoch and the Glacial period, of which I have principally to speak to-night.

There was a time, which did not in a geological sense long precede our own date, when the climates of the northern hamisphere.

Miocene epoch and the Glacial period, of which I have principally to speak to-night.

There was a time, which did not in a geological sense long precede our own date, when the climates of the northern hemisphere were a great deal colder than at present, and the same was the case in the southern hemisphere. Whether the phenomenon in the two hemispheres was simultaneous is not known. Mr. Croll, who has paid great attention to this subject, is inclined to think that a period of 25,000 years intervened. But, however, it does not matter for our argument, neither does it matter what was the cause of this general prevalence of cold climates, but it will be very interesting just to turn for a moment to look at the cause generally assigned. The earth in its orbit round the sun is in one position farther removed from the sun than in another, therefore the lengths of the seasons will not be equal. If winter occurs in the northern hemisphere when the earth is at its greatest distance from the sun (which is not the case now), then also will the winter be longer than the summer, and both these conditions will tend to make the climates generally colder; and it might be that snow and ice would accumulate, owing to the summer not being long enough to melt that formed during the winter. Furthermore, in consequence of this accumulated snow there would always be a cloudy atmosphere, so that although the earth would be nearest to the sun during the northern summer, still the earth would not derive so much benefit on this account as it might under other conditions. Other causes have been assigned, for example, that the sun is a variable star, and I observe that this view is beginning to receive a considerable amount of favour from distinguished astrologers: perhaps a combi-I observe that this view is beginning to receive a considerable amount of favour from distinguished astrologers; perhaps a combination of the two explanations will account for all the phenomena. amount of favour from distinguished astrologers; perhaps a combination of the two explanations will account for all the phenomena. This Glacial epoch, as it is called, occurred within the period of existing species of shells. A large quantity of debris is found scattered over the North of Europe and America, consisting of large blocks of stone, many of which have been transported from a great distance, and as a general rule have always travelled from the north. Geologists, who are acquainted with the phenomena caused by glaciers, recognise that they produce a peculiar effect on the rocks over which they pass, and on the stones which they carry, especially on those which, falling through cracks in the ice, are pushed along on the bed of the glacier, and are by that means scratched and polished. The rocky floor itself is also covered with longitudinal grooves in the direction of the valley, which are very characteristic. By means of such signs as these geologists conclude that in a comparatively recent period great glacial movements have taken place in the northern hemisphere, and that a large portion of the Scandinavian region, the northern parts of Britain, all Wales, and a large portion, if not the whole, of Ireland were actually buried under glacier ice. The mountains of Scotland, and many of those in Cumberland, in Wales, and in the South-West of Ireland have that particular contour due to their having been moulded by ice still quite apparent, in spite of the weathering action to which they have since been subjected. The pass of Llanberis shows these phenomena very characteristically; the grooves there, however, I believe, were produced when the cold was beginning to decline. So completely was a large portion of Europe and North America buried under this ice, that we can only compare their condition to that of Greenland at the present day, where the land is covered with a universal glacier, which in many places project in arms into the sea, pieces there breaking off to form icebergs. These icebergs are frequ as that of the Rhone, signs of very extensive glaciation are very abundant; the rocks are rounded and mammillated, grooved, and more or less polished; and on the tops of these rounded rocks, on both sides of the valley, are frequently found large blocks of stone periched, likewise due to the action of glaciers. On the flanks of the Jura you find similar stones, of immense size, and an examination of their nature shows that they could only have come from the rocks of the Alps—gneiss, granits, &c.

rocks of the Alps—gneiss, granite, &c.
It seems to be well established that a vast glacier descended the valley of the Rhone 90 miles in length, attaining a thickness of 3500 ft., according to the Swiss geologists, but which I believe was more probably 5000 to 6000 ft. thick: this crossed the plains of Switzerland, and spread out till it abutted on the hills of the Jura, where it was stopped. On the southern side of the Alps we find signs of glaciers as extensive; the appearances there show that glaciers descended from Mont Blanc and Mont Rosa, some no less than 100 scended from Mont Blanc and Mont Rosa, some no less than 100 miles in length. In every great valley, on both flanks of the range, there formerly existed a large glacier. The wasting power of the present glaciers is great, but compared with that of these ancient glaciers the action of the present ones must appear exceedingly small. I will briefly revert to one point which will show you how great this eroding power of ice is. In the course of many of these old glaciers there lies a lake—for instance, Lago Maggiore, Como, Zurich, Four Cantons, Geneva. all lie in the vath of ancient glaciers.

I have ventured to assert that the rock-bound basins in which these lakes were produced entirely by the eroding and grinding power of these old glaciers, and I have applied the same force to explain the wonderful abundance of similar lakes in the glaciated regions of North America. It is a curious and significant fact in the latter continent to notice that while the lakes are sown, as it were, broad cast over the northern portion directions. continent to notice that while the lakes are sown, as it were, broad cast over the northern portion, directly you get more south than the district over which the glaciers exterded the lakes entirely cease. With regard to the degradation of the mountains produced by these old glaciers we have some curious and interesting evidence. I will refer especially to the valley of the Dorea Baltea, a small river of Northern Italy, which runs for some distance, bounded on either side by two small ranges of mountains. At one part the river makes a sudden bend, and directly afterwards the mountains turn off, and the valley widens considerably, and in this part stretches a semicircular mound right across the valley. This mound is entirely composed of debris which has been brought down from Mont Blanc, and the mountains on either side of the valley; it is, indeed, a large terminal moraine of one of those old glaciers. But it does not represent anything like the whole of the matter worn off and carried down by the glacier, for we know that from the ice caverns at the termination of glaciers run streams which are quite milky in appearance, from the very fine mud with which they are laden. Where the Rhone now rises from a glacier a somewhat similar, but very much smaller, semi-circular mound has been formed; in the case of the moraine of the Rhone glacier it is only about 1 mile in length, whereas this morance of the del glacier in the Dore Balter. much smaller, semi-freular mound has been formed; in the case of the moraine of the Rhone glacier it is only about 1 mile in length, whereas this morane of the old glacier in the Dora Baltea valley is now 60 miles long, 7 miles wide, and 1650 ft. in height. The glacier coming down the valley spreads out into a fan-like form in this wide part of the valley, hence the semicircular form of the moraine. I say this moraine does not represent the whole of the matter worn down by the glacier, and the mound itself has been worn down to some extent by the rivers flowing from the glacier. worn down to some extent by the rivers flowing from the glacier. The Dora Baltea now runs through the mound, and yet large as the glacier must have been to produce such a mound, it was by no means the largest in that region. On carefully examining both sides of the Alps it is found there were no less than thirteen of these great glaciers, seven on the north and six on the south side of the chain; assuming that each carried down an amount of matter equal to that in the morane of the Dora Baltea, altogether we should have worn down a mass 390 miles long, 14 miles wide, and 1600 ft. high, or about 90 miles long, 14 miles wide, and 6400 ft. high. Now, the dimensions of the portion of the mountain chain in which these glaciers occurred is 156 miles long, 30 miles wide, and rising to a height of 13,000 to 14,000 ft. above the Rhone valley, the average height height should 6500 ft. Comparing the mass of moraine matter. height being about 6500 ft. Comparing the mass of moraine matter worn off as calculated above with this last estimate, we see that it amounted to nearly half of the mass which now remains to form the mountain chain.

mountain chain.

You will re nember that I stated in my lecture on the deposition of the Miocene strata in this region of Europe that the Alps before that deposition occurred must have been at least as high, if not higher, than they now are. Further, I showed you that these strata, although in the main fresh water, contained also marine interstratifications, from which we infer that they must have been many times at the level of the sea, and as the topmost of these strata is now 6000 ft. above the lowest marine interstratified bed, it follows that during the deposition the whole region must have gradually is now 6000 ft. above the lowest marine interstratified bed, it follows that during the deposition the whole region must have gradually sunk down 6000 ft. to allow of these marine interstratifications. Subsequently the Miocene strata and the Alps appear to have been elevated to at least 6000 ft., as I have before explained. We estimated the mass of these Miocene strata, which were derived entirely from the waste of the older Alps, to be equal to 15,480 ft. over an area equal to the whole of that part of Switzerland; that estimate was for the north. Now add to that the amount worn away on the north and south by the glaciers—4000 ft. more—and as a total you get a mass which will very nearly equal one-half, or perhaps three-fourths, of the whole mass of the Alps which remains. Bearing this in mind, and also remembering that there must have been large quantities carried away of which we know nothing, and also that denudation must have gone on during the crag period, I think you

quantities carried away of which we know nothing, and also that denudation must have gone on during the crag period, I think you will allow that I have sufficient warrant for the statement that in all probability before the deposition of the Miocene rocks was began the Alps, as a range, must have been as high as, and probably higher than, they are at the present day.

In conclusion, the lecturer stated that there were two lessons to be learnt from a consideration of this subject. The first was that all these features of the mountain chains and valleys have been brought about by very slow and gradual processes; that after the upheaval of the mass the main portions at least of the sculpture had been performed, and is still being performed, by the agencies of rain, of rivers, and of ice. The old notions of cataclysmic action are not even dead yet, but only sleep, to be revived time after time by geologists in some form or other, in which cases it seems almost as if their imagination had run away with them, or rather that they had not enough of imagination to realise how much might be done by the steady action of the slow processes of Nature. The second by the steady action of the slow processes of Nature. The second great lesson is that there is the closest connection between geology and physical geography: geology is, or ought to be, simply an attempt to realise the physical geography of each individual epoch; our own age, for example, being the sum of all the geological and physical forces which, of one kind or another, have prevailed in

A REVOLUTION IN MINING. - Capt. Jos. Thomas made a statement at the South Crofty meeting, on Wednesday, which is fraught with importance to the future of mining in Cornwall. He said that he had recently been to Lancashire, where he had seen a boring machine that was capable of drilling three times as fast and cost only two-thirds as much as hand work, and he afterwards added, as will be seen by our report of the meeting, that if this should be realised seen by our report of the meeting, that if this should be realised mining in Cornwall would be completely revolutionised. We quite concur in that remark, and are much pleased to learn that Captain Thomas has ordered one of the machines for Dolcoath, and expects to get it at work in two months hence, when there will be a thoroughly practical trial given it. It appears from Capt. Josiah Thomas's observations that the machine which is in course of being patented has been in use in some from mines in Lancashire, driving into limestone, for the last three or four months, so that it has had a pretty fair trial, and as a favour one is being made for him for trial at Dolcoath, and if it should prove as successful as he tully believes it will do, he will have one or two more put to work. The importance of Capt. Josiah Thomas's opinion is enhanced when it is recollected that three or four years ago he had a boring machine at work at Dolcoath for 18 months which proved a failure, which cost 20 per cent. more to do the actual work than hand labour. It is also interesting to know that the mine on which Capt. Thomas saw the machine at work is entirely worked by Cornishmen, from the manager downwards, and that it was invented and made by them for the work which it is intended to do. We sincerely trust that the machine will turn out all that is promised, for, as Capt. Josiah Thomas said, if they had said a machine at work in South Crofty they would soon drive the cross-cut to East Polode and prove it, but at present he advised the adventurers to wait till they as the success of the trial at Dolcoath. Capt. Thomas is much to be commended for this spirited enterprise. No one will accuse him of rashness, especially when the stone-breaker at Tincroft doing such wonderful work, and that it has yet to be in troduced at Dolcoath. Another important fact is that the new boring machine, so simply constructed that its cost will be only about 50%, which, as adventure said, is a mere bugatelle. We understand that Capt. Tregay has in the process of construction a very nice and ingenious little diamond boring machine, but it has referred to be tested before its success is assured. There can be no doubt that of the miss efforts made to perfect a good boring machine, some one two will prove success ful, and, as Capt. Josiah Thomas says, work a revolution in Cornish mining, by wonderfully saving time, hastening development, and conomising labour—a consummation devoutly to be wished.— West Briton.

IRON AND STEEL MAKING IN AMERICA REVIEWED BY AN ENGLISH IRONMASTER.

Whilst the ironmasters of Great Britain are awaiting a complete report from Mr. I. L. Bell of his visit to the iron and steelworks of America, the views of a Staffordshire ironmaster upon what he saw during a tour of the iron and steel making localities of the United during a tour of the iron and steel making localities of the United States have just been made known in a communication of much merit made to the South Staffordshire Mill and Forge Managers' Association, Wolrerhampton. The author of the paper was Mr. W. Molineaux, ironmaster, of Moxley, near Wolverhampton, who knew the United States iron trade as it existed a quarter of a century before. The progress that had been made in the interval, as well in the using-up as in the making of iron and steel, greatly astonished him; nor was he scarcely less surprised at the handy, compact, and generally efficient class of the machinery employed both in the iron mills and the steel shops. Much of this machinery the British iron and steel-master had not yet learnt to use in the way in which, with so much resulting economy, the Americans had learnt to use it. Nor had it yet been attempted by iron and steel makers in England to anything like the extent in which it was practised in America to make a profit upon the utilising of the iron and steel which they produced. The excellent forge and mill arrangements, and the manner in which the iron and steel made was turned out completed goods all at one establishment, he saw quickly upon landing, at the Passaic Rolling Mills of Cooke Brothers, at Patterson, New Jersey, only 15 miles from New York. Here was in operation a three-high 16-in. forge train (of rolls), and a 16-in. universal mill at the end of the train. He did not know that in any forge-train in England the three-high system of rails were used, though three-high rolls were used—but not generally—in mills; and in only two or three instances was that which the Americans term the universal principle applied to rolls in this country. That principle obviated the use of grooved rolls in the rolling of bars, and saved the great delay and cost entailed by the frequent changing of rolls. The purpose was attained by the use of small vertical as well as the usual horizontal rolls. Thus by the shifting of the vertical rolls so as to brin States have just been made known in a communication of much

in front of the furnace doors, the inside of the works became in hot weather coole—than the outside. Further, by the use of what the Americans termed "the telegraph," the incandescent iron was conveyed from the furnaces to the hammers, and from the hammers to the rolls, suspended in the air, and there was little or no use, therefore, for that other source of heat in the works—floor-plates of iron. Close by Mr. Molineaux saw what in England was termed a drawing-out forge, where iron and steel of all kinds and sizes was being drawn out and turned, for cast-steel in pots was also made in the place, in eight furnaces, producing three heats per day. Whilst be was in the forge a 10-ton crank was in the lathe, and a fine forging, exceedingly well finished, it was. Connecting-rods, piston-rods, and so forth were also being there produced. Likewise at Patterson he visited the three locomotives and engineering works, employing together 3000 hands, making locomotives as good as any he had ever seen, and supplying the machinery required by 20 cotton and silk mills in the same town, as well as producing other first-class machinery. At Albany there were two new blast-furnaces at work, producing 420 tons per week, and two more were being erected. Better furnaces he had not seen even in the North of England. Rolling-mills and forges were also to be laid down by the proprietors of the furnaces, who had taken some 15 or 20 acres of land for the purpose, The property was connected with the Hudson river and with the Eric Railway. A spacious three-storied building at Albany had been taken by a company for making agricultural machines.

Troy, with its Bessemer plant: Syracuse, with its works for making spring steel; and then Rochester, were passed in review; and it was pointed out that at Ironton, 10 miles from Niagara, two blast-furnaces were in course of erection. The engine-house of these furnaces, which could not be matched for style and spaciousness in England, Mr. Molineaux described as having 54-inch steam cylinders, 96-in. w and well executed. The firm expected a considerable addition to their business by reason of the International Bridge, which had been opened since Mr. Molineaux had returned home.

Two hundred miles further off he came to Newburg, near Cleveland, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important Bessemer plant, having four land, where there was an important bessemer plant, having four land, where there was an important bessemer plant, having four land, where there was a land, where the land, where land, where land, where land, where land, where

blowers, and were they were removing the steam-hammers and putting down three-high blooming rolls instead. Here there were mills for down three-high blooming rolls instead. Here there were mills for rolling iron and steel rails, driven by an engine of 350-horse power. The manager (Mr. Howell) went out five years ago from Wolverhampton, where at Messrs. Sparrows' he worked as an assistant roll-turner. At these works there were also two 8-in. wire-mills. The most recently erected of these had been fitted up at great expense, the chocks being made of Bessemer steel (plained to fit) instead of liners for chocks, wadges were used, plained, fitted, and screwed-in ed, fitted, and screwed-in liners for chocks wedges were used, plained, fitted, and screwed-in in the nicest manner. Here, too, was a set of three-high 16-in. rolls for billeting down all their steel rail ends to a 2-in. by \$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\frac{1}{2}\in.\text{by}\$\text{ad ont at the other side was rolled into wire. Every pound of their Bessemer scrap they seemed to be using up in one way or another. The works had not been short of ordersall the time Mr. Howell had been manager; and when, in the autumn of 1873, Mr. Molineaux was at the works Mr. Howell said that they had orders on their books which would take them two years to execute. liners for chocks wedges were used, plain

two years to execute.

At Chicago there were the North Branch Bessemer Works, having

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hatic to New Tork than it does to take non from I the stell that market.

A prohibitive tariff is what, in his opinion, English iron and steel masters have most to fear, but he does not believe in the probability of such a duty. He speaks most highly of the frankness with which American iron and steel makers everywhere, with one solitary exception, threw open to him the whole of their works. "We have, they said, no secrets, and we will give you any explanation you need." The exception was that of some steel works which certain manufacturers from Sheffield had started near to Philadelphia. Buteven to those works he might, perhaps, have obtained admission if the proprietors had not been away. Specimens of the sheets, hoops, and horse-nails and the like which he picked up at random in passing through the works Mr. Molineaux showed to the Association, and they were pronounced of much excellence. As he deserved to be, the author was very warmly thanked for his excellent paper, which bristled with facts from beginning to end, and was in no respect discursive.

no respect discursive.

THE BRITISH CHEMICAL TRADE-ITS PAST, PRESENT, AND FUTURE-No. III.

THE BRITISH CHEMICAL TRADE—ITS PAST, PRESENT, AND FUTURE—No. III.

The two principal seats of the alkali trade of Great Britain are Lacashire and Tyneside. Both of these localities have been largely sesceited with the development of other industries, but they are recognised as par excellence the most distinguished centres of this industry. It is easy to understand how, apart from the stimulus that was given to the expansion of this trade on Tyneside by the superior eargy and chemical skill of its pioneers, it should have found a home on the banks of the coaly river. From no port in the United Ringdom is it possible to obtain a better command of the European markets, while the same facilities are attainable in the importation of the raw materials. In the first beginnings of the chemical trade of the Tyne it was usual to get the sulphur ore almost exclusively from Sicily. On this ore until 1825 there was an excise duty of 152, per ton; but in that year the excise was reduced to 10s, per ton, making the cost of the ore delivered on the Tyne from 64, to 84, per ton. In 1838, however, the King of Sicily entered into an arrangement with Messrs. Faix and Co., of Marseilles, for the exclusive acquisition of all the sulphur ore produced in his dominions; and this was the first impulse leading the chemists of this country to make use of pyrites as a substitute for sulphur. For some time all the pyrites required was found in ample abundance in Cornwall and Ireland; but in 1856 attention began to be given to the importation of Spanish pyrites, which were found to be more rich in sulphur, and subsequently pyrites were imported from Westphalia, Norway, and Belgium. Spain, however, still continues the main source of supply. At the present time the imports of sulphur ore into the Tyne from 68,248 tons in 1869 to 124,537 tons in 1873, the quantity of messade from 68,248 tons in 1869 to 124,537 tons in 1873, the quantity of messade from 68,248 tons in 1869 to 124,537 tons in 1873, the quantity of messade from 68,248 tons in 1869 and an agreement was entered into with the owners of Walker Collery to pump the brine. To do this a 4-in. lead pipe was put down on the outside of the metal tubbing of the pit to the salt spring, and an engine erected by Bolton and Watt, in 1788, on the principle of the "eun and planet motion," did the double work of drawing both the brine and the coal. At this time there was an excise duty of 10. to 36%, per ton on salt; and it is related that it was a common practice of the working classes about Walker, owing to the scarcity and dearness of salt, to bore holes in the wooden spouts, and convey the brine secretly to their dwellings for domestic purposes. Although the high duties on salt were not repealed until 1823, the Earl of Dundonald, who was associated with the late Mr. Losh in the establishment. though the high duties on salt were not repealed until 1823, the Earl of Dundonald, who was associated with the late Mr. Losh in the establishment of the Walker Alkali Works, succeeded in obtaining an Order in Council declaring that the salt made at Walker might be used in the manufacture of soda free of duty; but, to prevent its being used for domestic or other purposes, it was required that soot or ground coal should be put into the pans. At the outset of the manufacture not more than 2 or 3 tons of salt were produced per week, and at no time while the local brine was used did the quantity produced exceed 8 tons. It was not until 1825 that Cheshire all was imported, and, as it only cost 12s, to 13s, per ton, as against 3% to 34s, expended in the evaporation of the salt brine at Walker, the latter was soon superseded by the former. Until very recently the ordinary Cheshire salt was almost exclusively used for the ma-

nufacture of alkali, the only exception being a manufactory where the waste heat of the coke-ovens is used for the evaporation of the liquor formed by dissolving rock salt. In the early half of the present century extensive salt-works were carried on at Shields, and the quality of Shields salt was admittedly superior to any other; but the conditions of its manufacture were so unfavourable that it has now all but become utterly extinct. The cost of freight for the conveyance of the salt from Cheshire to Tyneside would be very considerable were the railway system alone made use of; but the bulk of the salt used on Tyneside is conveyed thither by canal to Hull, Goole, or Grimsby, and thence by foreign vessels, which take it as ballast, to the Tyne, when they come to that river for an outward cargo of coals. Inasmuch as salt is one of the most important and essential elements entering into the manufacture of alkali, it is worth while to reflect on the prospects of Tyneside, so far as the future supply of this and other raw materials are concerned. It was calculated in 1863 that the production of salt in this country was not less than 1,500,000 tons per annum, of which only 120,000 tons were rock salt. Since then, however, fully half a million tons more has been added to the annual output of salt, and the distance between rock salt and salt produced by evaporation has been very materially diminished. Cheshire is at the present time the only important centre of the salt trade in the kingdom; but there is a limit to the quantity of salt even in Cheshire, and there are many who aver that before many years that limit will be attained. In the North of England it is now found that it does not pay to make salt by the evaporation of seawater, the day having gone by when the small coal required for that purpose cost the salt manufacturers no more than the expense of conveying it to their works by river craft. Shields salt is still made in very small quantities by first dissolving Cheshire or Irish rock salt in sea-water, and

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| | re | r the yea ending | | of 26 cw | | Tons. | | Tons. |
| | March | 31, 1864 | ******** ** | 58,030 | ******** | 695,558 | ******* | 753,588 |
| | ** | 1865 | ********** | 53,0001/2 | ******* | 670,78136 | ******* | 723,782 |
| | ** | 1866 | ********** | 48,278 | ******** | 736,775 | ******* | 785,053 |
| | ** | 1867 | ********* | 50,572 | ******* | 721,423 | ******* | 772,175 |
| | 23 | 1868 | ********** | 49,759 | ******* | 868,679 | ******** | 918,438 |
| | ** | 1869 | *********** | 58,696 | ******* | 901,566 | ******** | 960,262 |
| | 22 | 1870 | *********** | 67,410 | ******** | 901,158 | ******* | 968,568 |
| | 33 | 1871 | ********** | 82,765 | ******* | 930,551 | ******* | 1,013,316 |
| | ** | 1872 | ********** | | ******** | | ******* | 1,087,465 |
| | | 1873 | | 95,4291/2 | | | | 1,013,4971 |
| | | | 3 45 | 4 CH 1 | | | | |

Sulphate of magnesia 0-08
Sulphate of soda 0-10
Silica 0-06
Oxide of iron Trace.

Moisture 7-04-100-00
This salt was first pierced at a depth of 1206 ft., the bed being not less than 99 ft. thick. Messrs. Bolckow and Vaughan did not, however, pursue their interesting and valuable discovery to its logical and commercial result, and it has been allowed to slumber undisturbed up to the present time, the firm having probably already too many irons in the fire to undertake the development of quite a new industry. This, however, was not the view which occurred to Messrs. Bell Brothers, of the Clarence Works, on the opposite banks of the River Tees, for, after prospecting on their property upwards of twelve months, they recently came upon the same bed of salt atglamost the same thickness, and now intend to takesteps for its development. The fact of possessing so near at hand, and in apparently inexhaustible quantities, a supply of salt so well suited for their requirements will be a great gain to the alkali manufacturers on the Tyne. It has been calculated that Tees salt can be delivered on Tyneside for 2s. to 3s. per ton less than the salt of Cheshire, and this is a consideration of the utmost importance to firms like the Newcastle Chemical Company, Tennant and Co., Lomas and Co., H. L. Pr'ttinson and Co., and so there on the Tyne, each of whose works decompose from 20,000 to 50,000 tons of salt per annum. From this point of view, therefore, the chemical trade of the Tyne has a bright outlook. But this is not all. The unlimited command of salt on the one hand, and of cheap fuel on the other—for the Tyneside alkali manufacturers can obtain better and cheaper coal than any rival or competitor, no matter where established—will give the Tyneside alkali trade a better hold on the markets of Northern Europe, so that, instead of now exporting as we do a large quantity of coal and salt for the alkali industries of other countries, we may hereafter extend our exportation of the finished articles of commerce.

It is not unfreq

pear that Tyneside will lonalkali trade of this country.

CHEMICALS, MINERALS, AND METALS—(Messrs. J. Berger Spence, and Co., Feb. 17).—Soda: Cream caustic, 60 per cent., 13t. 5s. to 13t. 10s.; white, 14t.: soda cash, 28-16d.; soda crystals, 5t. 7s. 6d.; bl-carbonate, 14t; salt cake, 3t. to 3t. 2s. 6d.; Gl-alber salts, 2t. 17s. 6d. to 3t.—Bleaching Powder: At 9t.—Alum: 7t. 10s. to 7t. 15s. for loose lump; ground, 3t. 10s. to 2t. 15s.—Nitrate of Soda: At 12s. to 12s. 3d.—Ammonia: Sulphate, white and grey, 17t. 12s. 6d. to 18t. 5s.; carbonate, 74d.; muriates, 30t. to 32t. 10s.; sal ammoniac, firsts, 45s.; seconds, 44s.—Potash: Muriates, 30 per cent., at 6t. 10s. to 6t. 12s. 6d., f.o.b.; Prussiate, red, 2s. 6d.; yellow, 1s. 2d.; chlorate, 105d.; bl-chrome, 6t/d.—Iron Salts: Green and rusty copperas, 60s. loose; in casks or barrels, 65s.—Copper Salts: Sulphate of copper, 26t. 10s.—Litharge: Best fake, 2d.—Sugar of Lead: Brown, 28t.; ditto, white, 43t. to 44t.—Saltpetre: Foreign, 22s. to 22s. 6d.; refined, 28s. to 28s. 6d.—Acid: Tartaric, English, at 1s. 6t/d.; foreign, 1s. 6t/d.; oxalic, 6t/d.; sulphuric, 3t. 10s. to 3t. 15s.; carbolic, No. 1, 11d.; picric acid, 2s. 3d. per lb.—Arsenic: 14t. to 14t. 8s.—Magnesis: Eppom salts, 3t. 17s. 6d.; refined, 4t. 10s.—Benzole: 30 per cent., 4s. 6d to 5s.; 90 per cent., 6s.—Brimstone: Best thirds, 7t. 10s.—Phosphate of Alumina, 3t. to 3t. 10s. per ton.—Pyrites: Spanish cupreous, 7t/d.; non-cupreous, 9d. to 9t/d.—China-day: 18s. f.o.b. Cornwall; best quality, 28s.—Phosphates: High strength, 80 to 85 per cent., 1s. 4d. to 1s. 5d. per unit; 25 to 26 per cent., 3t. 10s.—Manganesis: Ores, 110s. to 115s. for 7 percent.—1-m Ore: Hermatite, 15s. to 23s. 6d.; puddling, 24s. to 27s.; oolitic, 8s. to 10s.—Iron: "Ayrenom" Yorkshire pig-4ron, delivery, January to Marchi, No. 3, 60s.; No. 4 (foundry), 57s. 6d., net cash, or 1s. extra four months' bills: Sootch pig warrants, 73s. to 74s.; Staffordshire bars, 9t. 12s. 6d.—Copper: Chill bars, 83t. to 54t.—Tin: Eng.

lish ingot, 96/. 10s.; Straits, 91/.; Australian, 90/.—Tin-Plates: M.I.C., 25s. 3d. per box.—Lead: Best English soft pig, 23/. 10s. to 23/. 15s.—Antimony: French Star. 53/. to 54/. —Spetter: Silesian, 28s. 15s.—Sheet Zine: N. 6, 31/. 15s.; M. 7, 30/. 16s.; N. 8, 29/. 5s.; N. 9, 28/. 15s., c.i.f. Hull or Liverpool.

QUALITATIVE AND QUANTITATIVE ANALYSIS OF NICKEL, COBALT, AND SILVER ORES, BY THE USE OF THE BLOW-PIPE.*

By Hugo Cookesley, Author of the "Practical Assayer."

No. I .- QUALITATIVE ANALYSIS OF NICKEL AND COBALT.

No. I.—QUALITATIVE ANALYSIS OF NICKEL AND COBALT.

I design to give to the readers of the Mining Journal, in three or four short articles, an account of the ingenious, elegant, and accurate methods of determining the value and presence of the three abovementioned minerals. It so happens, curiously enough, that, although these assays—nickel, cobalt, and silver—when they are performed in the laboratory require complicated and cumbersome apparatus, such as muffles, reducing furnaces, &c., yet can be most accurately determined by means of a blow-pipe and a few pieces of apparatus that can be easily carried in a coat-pocket, and whose weight does not exceed a few ounces. Indeed, a good practitioner can estimate the value of a silver ore quite as accurately by means of the blow-pipe as he can by the muffle, incredible almost as this statement may appear to those who are not acquainted with the method of assay. I have no doubt, then, that a description of these assays will prove extremely useful to persons interested in cobalt or silver mining property, especially to those who are at some distance from large towns. I have omitted all descriptions of apparatus, as I presuppose my readers are acquainted with the different kinds already. The word "coal" means charcoal.

The assay of nickel and cobalt ores, though of great importance, is, unfortunately, of great difficulty. All the wet processes are tedious and uncertain in their results, and require special re-agents, which are very often difficult to procure in remote districts. The mode of assay now to be described is that known as "Plattner's Dry Method," and is the best, cheapest, and most accurate, when properly performed. I imagine that it is little known in England, as in a review by the Chemical News on my book, the "Practical Assayer," in which an account of it was given, to a certain extent only, as suitable for explorers, it was stated that "we cannot see the utility of the assay or its accuracy"—or words to that effect. It may be stated broadly that the metho

spective values.

I.—QUALITATIVE ANALYSIS. This is best performed with the blow-pipe. The following are the principal minerals in which nickel and cobalt occur. The compositions are the result of calculation, and not of special analyses, which are not of general use, and are only of value for particular cases.

Grunanite, Ni 22, Bi 10, S 32. Millerite, Ni 65, S 35. Copper nickel, Ni 44, As 56. Breithauptite, Sb 69, Ni 31. Chloanthite, Ni 28, As 72. Gersdorfite, Ni 36, As 45, S 19. Ullmannite, Ni 28, with antimony and sulphur. Annabergite, Ni O 37, As O 39. Emerald nickel, Ni O 59.

f. Ni 44, As 56. Breithauptite, Sb 69, Ni 31. Chloanthite, Ni 28, As 72. Gersdorfite, Ni 36, As 45, S 19. Ulmannite, Ni 28, with antimony and sulphur. Annabergite, Ni O 37, As O₂ 39. Emerald nickel, Ni O 59. Smaltine, Co 3:5-28, As 70-90, Fe 1-18, Ni O·5-26. Cobaltine, As 45, Co 36. Skutterudite, Co 21, As 79. Linnesite, S 42, Co 58, Erythrine, Co O 38, As O₂ 38. These metals also occur in the various speisses obtained by smelting cobaltiferous nickel ores.

Cobalt is easily recognised, since it oxidises very readily, and imparts a blue colour to the borax bead, which remains unattered in the oxidising and reducing flame. Suspected compounds of cobalt with arsenic must be fused on a piece of coal until all the arsenic fumes are driven off. If only cobalt is present, a small piece of glass of borax, placed on the top of the powdered mineral, and melted with the tip of the blow-pipe flame, will be coloured upre smaltblue. If, however, iron is present, the glass of borax will be coloured yellow to brownish red in the oxidising flame. But by cleaning off the borax, when saturated, and adding a fresh piece, or pieces, the smalt-blue colour will at length appear. Any copper or nickel which may be present will combine with the remaining arsenic and sulphur, and will not be oxidised until the cobalt has come off, by repeated additions of borax. This point may be determined by lifting up a small portion of the melted borax with a pair of pincers, and squeezing it out flat; by holding it up to the light any brown shade, caused by the presence of nickel, can be at once seen. By adding fresh borax, and treating the button with the oxidising flame as before, the nickel can be slagged off, and if any copper is present it can be determined by the borax bead assuming a green colour both when hot and colol. If any bismuth is present it will be immediately recognised by the coat which it will form on the piece of coal used for removing the excess of arsenic. This coat is dark orange-yellow when hot, and lemon-yellow when col green on cooling; it, nowever, there was no nicker at an int are the glass when cold, as well as the melted lead itself, will appear bluish-green; the button, also, when cool appears of a bright surface. We thus see that the order in which the principal metals oxidise is—iron first, cobalt second, nickel third, and copper last. oxidise is—iron first, count second, ficker third, and copper list. It is of great importance to the miner and mining engineer to know the chief points by which the principal ores of nickel and cobalt may be recognised; I have, therefore, tabulated the above-mentioned list of minerals according to Plattner's "Probirkunst," giving their behaviour before the blow-pipe.

GRUNANITE.—In the open tube yields sulphurous acid and a slight where the cost forward by sulphate of bignuth which eattles near.

yellowish coat, formed by sulphate of bismuth, which settles near the assay. On coal it evolves sulphurous acid, and fuses to a grey button, which subsequently gives a yellow coat of oxide of bismuth and a white coat of sulphate. If the residue is powdered and treated and a white coat of sulphate. If the residue is powdered and treated with borax glass, besides cobalt, copper, and iron, it reacts strongly for nickel.

for nickel.

MILLERITE.—Yields sulphurous acid in the open tube. On charcoal it fuses easily to a globule; but it spits violently, and decreases in size. If roasted and treated with a strong reducing flame, a somewhat malleable metallic and magnetic mass results. Very often a little copper and iron are present.

COPPER NICKEL.—When free from antimony yields very little

* From the German of PLATTNES.

arsenous acid in the closed tube, but in the open tube yields arsenous acid abundantly, and sometimes sulphurous acid; the substance turns

acid abundantly, and sometimes sulphurous acid; the substance turns yellow-green. On charcoal it fuses to a button, giving off arsenical fumes. If the button is treated with a little borax glass with the tip of the blue flame the colours of iron and cobalt will be discovered. Sometimes a yellowish-white coat of bismuth is formed.

BREITHAUPTITE.—In the open tube copious antimonial fumes are given off; the substance appears of a greyish-green when cool. It can be fused on a piece of charcoal in the reducing flame, and when the blow-pipe action is stopped fumes like those of antimony are given off, but no exide of antimony is formed; but on turning on the blast again a coat of exide of antimony is formed, and a little beyond it a yellow lead coat may be formed if that mineral is present. If the substance by itself gives off no arsenic colour, this becomes perceptible by adding a little soda. The glass obtained with borax on coal with the reducing flame only reacts for iron, but by treating the button with a little fresh borax the brown reaction of nickel is seen.

CHLOANTHITE.—Behaves like copper nickel, but in the closed tube metallic arsenic is formed.

GERSDORFITE (Nickel Glance).—Decrepitates in the closed tube

Arsenous and sulphurous acids are yielded in the open tube. On coal fuses to a button, giving iron, cobalt, and nickel reactions.

ULLMANNITE.—In the closed tube yields a small white sublimate; in the open tube copious antimonial fumes. On charcoal fuses to a button, giving off antimonial fumes, which give the characteristic cost. Sometimes around its present and can be recognised by its Sometimes arsenic is present, and can be recognised by its

Annabergite.—In a small matrass yields water, and becomes darker. It can be fused with the tip of the blue flame, and gives a light-blue tinge to the outer flame, due to arsenic. When treated with the reducing flame on charcoal arsenical fumes are evolved.

and a blackish-grey globule of arsenide formed, which generally shows a feeble cobalt reaction in the reducing flame, but afterwards shows nickel in the oxidising flame.

EMERALD NICKEL—Assumes a black colour in a small matrass, and yields considerable water at 100° C. On charcoal in the oxidising flame it is unchanged, but in the reducing turns to a metallic intervalor roughly which is magnetic and assumes a metallic lustres. ing flame it is unchanged, but in the reducing turns to a metallic infusible powder, which is magnetic, and assumes a metallic lustre by friction in an agate mortar. With soda in the oxidising flame is insoluble, but in the reducing flame is easily reduced to a quantity of white metallic particles, which are magnetic. With borax or a piece of looped platinum wire in the oxidising flame the hot glass is violet, but reddish-brown when cold. In reducing flame the borax becomes grey or opaque, owing to finely-divided metallic nickel. The reduction is best made with a small piece of tin on charcoal; the metallic particles units with the tin to a button.

SMALTINE.—In the closed tube yields metallic arsenic. When

SMALTINE.—In the closed tube yields metallic arsenic. When carefully treated in the open tube a copious crystalline sublimate of arsenous acid is formed. When pulverised it becomes changed into basic arsenate of cobalt. It can be fused on coal to a greyish-black magnetic button with evolution of arsenic fumes; this button is brittle, and when treated with borax on charcoal shows cobalt nickel, and iron reactions.

SKUTTERNDITE.—In the closed tube gives a very strong sublimate SKUTTERNOITE.—In the closed two gives a very strong submate of arsenic, and in other respects behaves like arsenic.

Cobaltine (Cobalt Glance).—In the closed tube yields a very little

arsenous acid. In the open tube when heated to redness it yields arsenous and sulphurous acids. On charcoal it gives off arsenic and sulphur, and finally fuses to a button, giving with borax, nickel, and iron reactions

and fron reactions.

LINNEITE.—In the closed tube yields a sulphur sublimate; in the open tube a great deal of sulphurous acid, and very little arsenous acid. When pulverised it turns black on cooling. On coal small fragments of crystal can be fused in the reducing flame to a globule, which can be kept fluid for some time free from oxide on the sur face, and no coat formed. When cold it is covered with a patchy black film of oxide of iron.

EXPLIBITE IN the small matrass yields water only. The ruby

ERYTHRINE.—In the small matrass yields water only. The ruby crystals from this ore glow in the matrass, and when cooled are of a dirty violet colour. In the blowpipe flame these crystals gradually fuse, and colour the flame light-blue. On coal arsenical fumes are given off, and in the reducing flame a blackish-grey globule of arsenide of cobalt is formed, which with the fluxes reacts only for

In my next article I shall describe the method for quantitatively determining the value of nickel and cobalt ores.

THE COAL RESOURCES OF OUR COLONIES-No II.

Sir C. Dilke, in his "Greater Britain," well observes, "The position of the various stores of coal in the Pacific is of extreme importance as an index to the future distribution of power in that portion of the world, but it is not enough to know where coal is to be found without looking also to the quantity, quality, cheapness of labour, and facility of transport, Tasmania has good coal, but no great quantity, and the beds nearest to the coast are formed of anthracite. The three countries of the Pacific which must, for a time at least, rise to manufacturing greatness are Japan Vancouver Island, and New South countries of the Pacific which must, for a time at least, rise to manufacturing greatness are Japan, Vancouver Island, and New South Wales, but which of these will become wealthiest and most powerful depends mainly on the amount of coal which they respectively possess, so situated as to be cheaply raised. The dearness of labour under which Vancouver suffers will be removed by the opening of the Pacific Railroad, but for the present, New South Wales has the cheapest labour, and upon her shores at Newcastle are abundant stores of coal of good quality for manufacturing purposes, although for sea use it burns 'dirtily' and too fast. The future of the Pacific shores is inevitably brilliant, but it is not New Zealand, the ceutre of the water hemisphere, which will occupy the position that England has taken on the Atlantic; but some country such as Japan or Vancouver, jutting out into the ocean from Asia or from America, as England juts out from Enrope. If New South Wales usurps the position it will not be from her geographical position, but from the manufacturing advantages she gains by the possession of vast mineral wealth."

not be from her geographical position, but from the manufacturing advantages she gains by the possession of vast mineral wealth."

The coal field of New SOUTH WALES is estimated at 120,000 square miles, and in Queensland the same area is supposed to exist. This great coal field of New South Wales is found to extend into Queensland, and to reappear in Tasmania. The coal measures reach from the 29th to the 35th parallel of south latitude; they crop out to the water's edge along many miles of the seaboard, and vast carboniferous areas are intersected by two lines of railway, at distances of nearly 100 miles from the metropolis, while the third line, that to the north, runs through coal fields over nearly its whole length. The New South Wales coal is admirably adapted for steam purposes. It is burnt in all the steamships trading to the southern hemisphere, and meets the English coal in the markets of India and China, at equal meets the English coal in the markets of India and China, at equal meets the English coal in the markets of India and China, at equal prices. The principal collieries at present worked are situated within 10 miles of Newcastle, a commodious harbour, about 50 miles north of Sydney; but valuable mines are also worked near Wollongong, 60 miles south of Sydney, and at Hartley, about 90 miles inland on the western line of railway. The Australian Agricultural Company's seam is 163 ft. from the surface, and 150 ft. below sea-level, and its average thickness is about 10 ft. It is highly bituminous, and may be taken as an illustration of several other seams in the same locality, which are, however, nearer the surface. Preparations are being made to work a seam near Murrarundi, 120 miles north-west of Newcastle; and efforts are also being made to bring the coal of the Clarence into the local market.

A large area of the New South Wales coal fields must long remain

A large area of the New South water coal helds must long remain undeveloped, except for local requirements, for it is not likely that mines far inland will ever be able to compete with those only a few miles from the ports of shipment. Locomotive power is used at all the Hunter River mines, and with the shipping facilities which exist in Newcastle at the present time they are able to load 40,000 tons of coal per week. The means of shipment can, of course, be indefined by the competence of the coal piece of the a report to the Colonial Government, says, "I have examined ams more than 700 miles to the north of Newcastle, belonging to underlaid by the same fossil flora and fauna; and we may, without

boasting, claim to rank with the most extensive coal fields in the world." The Hartley coal measures are the last which have been brought under tribute by the miner, and in a year or two their trade with the western interior must become very great. The coal measures there are close to the railway, and they are known to crop out sures there are close to the railway, and they are known to crop out over an area of 10 square miles. The seams are from 9 to 11 ft. thick, and the coal is used by the locomotives on the Government railway. The area under lease for coal mining, up to the end of 1872, was 34,720 acres; and the number of coal miners 2150. The prices of coal at Newcastle f.o.b. are—best screened, 12s.; unscreened 11s.; small 6s. The miners are paid 4s. 3d. per ton for hewing coal; they work by the piece, but seldom labour more than eight hours, and in that time coan exerger 3 tests. The area time of sold mining the coal area of th that time can average 3 tons. The quantity of coal raised from New South Wales mines to the end of 1872, was over 10,000,000 tons, of which more than 6,000,000 tons were exported, of the value of four millions sterling.
In QUEENSLAND the area over which coal is spread is estimated

In QUEENSLAND the area over which coal is spread is estimated at more than half of the superficial extent of the whole of England; but little has yet been done towards the development of its coal mines. The area is, therefore, very large, occupied by the carboniferous formation of the colony, in which seams of coal of varying thickness and quality are known to exist. At Tivoli, Redbank, and Allora, in the neighbourhood of Warwick and Ipswich, as well as on the Burrum river, in the Maryborough district, some few coal seams have been and still are worked but for the present in these on the Burrum river, in the Maryborough district, some few coal seams have been, and still are, worked, but for the present in these localities only. The great extent of the Queensland coal formation and the number of included seams of that mineral, with accompanying iron ores, induce the belief that there will hence ultimately arise one of the main sources of employment for a large settled population. The Redbank coal pits are near I pswich, 20 miles from Brisbane. The coal seam is situated on the Brisbane river, near the junction of that view with the Braner.

coal seam is situated on the Brisbane river, near the junction of that river with the Bremer.

In Victoria coal seams exist at Traralgon, Gipps Land, Cape Patterson, Griffith's Point, Coal Creek, Bass' river, and other places in the coal rocks, along the coast of Western Port, also in the Barrabool Hills, near Geelong, in the Cape Conway ranges, and at Coleraine, in the Portland district. Most of the seams vary between a few inches and 1 foot in thickness; only a few exist at Cape Patterson and Griffith's Point, of a thickness exceeding 3 ft. These are, however, as far as mining exploration has proved, not of any great workable extent. The coal from some of the seams is of very good average quality, that from Griffith's Point and Cape Patterson resembling mostly "pitch," or "caking coal." Some seams, as at Traralgon, yield a mineral both in chemical composition and outward character a mineral both in chemical composition and outward character hardly distinguishable from Virginian bituminous coal. It is bright a mineral both in chemical composition and outward character hardly distinguishable from Virginian bituminous coal. It is bright black, rather hard, with small conchoidal fracture, burns readily with bright yellow flame, and yields a good firm coke. This and the Cape Patterson coal prove very good gas coals. The working of the Cape Patterson coal seams has for several years been repeatedly attempted, but with only poor success hitherto. Although the mineral is of quite as good quality as that of Newcastle, New South Wales, still it cannot compete with the latter in cheapness, a circumstance mainly due to the absence of good roads or tramways for easy access from the mines to the seaboard, combined with the want of harbour accommodation to ship coal to the Melbourne market. Bituminous shales are found associated with, and generally covering, the coal seams. They consist of black or brown slatey and shaly beds, full of carbonaceous and bituminous matter. Most of these shales burn, though somewhat sluggishly, under the influence of a good draught. Brown coal or lignite also occurs in extensive deposits in several parts of the colony. One at Lal Lal, nearly 120 ft. in thickness, is perhaps unparalleled in any part of the world. In Western Australia coal is found, but not yet worked, on the Irwin river, in the Victoria district, but also on the southern coast, near the Fitzgerald river. It is of the character of Welsh coal, well adapted for engine purposes.

GOVERNMENT INSPECTION OF COAL AND METALLIFEROUS MINES.

[OFFICIALLY CORRECTED.]

Subjoined is a list of the districts in charge of the several Inspectors of Metalliferous Mines; and of the Inspectors of Coal Mines, with the assistant inspectors and secretaries of the Boards of Exa-METALLIFEROUS MINES.

METALLIFEBOUS MINES.

1.—Mr. CLEMENT LE NEVE FOSTER, D Sc., Truro: — Cornwall, Devonshire, Somersetshire (except Bristol district), Dorsetshire.

2.—Mr. T. F. Evans, Amlwch, Anglesca:—Derbyshire, Shropshire, Cumberland, Lancashire (except those mines in the coal field), Durham and Northumberland, North Wales, Cardiganshire, Radnorshire, Merionethshire, Carnarvonshire, Brecknockshire, Montgomeryshire, Denbighshire, Flintshire, Anglesca, Isle of Man.

3.—James P. Bakeb:—South Staffordshire and Worcestershire.

4.—Mr. Thos. Wynne, Gnosall, Stafford:—Staffordshire.

5.—Mr. JOSEPH DICKINSON, Pendleton, Manchester:—Cheshire, Ireland, and within the coal field of North and East Lancashire.

6.—Mr. W. Alexander, 23, India-street, Glasgow:—Scotland, West.

7.—Mr. T. E. Wales, Brunswick-place, Swansea:—Pembrokeshire, Carmarthenshire, Glamorgaushire.

7.—Mr. I. E. Walss, Bauss and Mr. 17.—Rank, Edward Mr. Lionel, Brotsh, Clifton, Bristol:—Somersetshire (Bristol district), ilouesstershire, Herefordshire, Monmouthshire, and Wiltshire.

9.—Mr. Thos. Evans, Duffield-road, Derby:—Oxfordshire, Northamptonshire, and Warwiokshire.

[Westmoreland.

10.—Mr. THOMAS BELL, Durham:—The Dales district of North Yorkshire and 11.—Ralph Moore:—Eastern district of Scotland.

COAL MINES.

(A.I., Assistant Inspector; SEC. B.E., Secretary to Board of Examination —Mr. JAMES WILLIS, Newcastle on Tyne; A.I., Mr. W. N. Atkinson, 10, Glouer terrace, Newcastle-on-Tyne; SEC. B.E., Mr. Geo. Southern, 17, Wentworth ace, Newcastle-on-Tyne;—Northumberland, Cumberland, and Durham north terrace, Newcastic-on-Tyne:—Northumberiand, Cumberiand, and Duffiain horms of the Wear.

2.—Mr. Thomas Belli, Durham; A.I., Mr. J. B. Atkinson, Chilton Moor, Fence Houses; Sec. B.E., Mr. G. W. Bartlett, Cleveland-parade, Darlington:—Durham south of the River Wear in its course from the sea at Sunderland up as far as Harraton, near Chester-les Street, and from thence westward, the line of the Pontop and Shields branch of the North-Eastern Railway, Cleveland in Yorkshire, and Watterschaft.

oreland. r. Frank N. Wardell, Wath-on-Dearne, near Rotherham; A.I., Mr. John , Wakefield; SEC. B.E., Mr. J. R. Jeffery, solicitor, Bradford:—Yorkshire

retrard, Wakenett; SEC. B.E., Mr. J. R. Jenery, solutior, Bradford; — Yorkshird Lincolnshire.

4.—Mr. Thos. Evans, Pen-y-Bryn, Duffield-road, Derby; A.I., Mr. A. H. Stokes berby; SEC. B.E., Mr. W. Saunders, 42, Full-street, Derby;—Derby, Nottlingham Varwickshire, and Leicester.

5.—Mr. Thos. Wynne, Gnosall, Stafford; A.I., Mr. Samuel B. Gliroy, Stone BEC. B.E., Mr. Jos. Knight, Newcastle-under-Lyme:—North Staffordshire, Shrop bits, and Cheshira.

SEC. B.E., ART. SOC. MINISTRANCE OF THE SEC. B.E., Mr. W. B. Soott, G.—Mr. JAMES P. BAKER, Tettenhall, Wolverhampton; A.I., Mr. W. B. Soott, Compton-road, Wolverhampton; SEC. B.E., Mr. Wm. Blakemore, Heath Town,

O.—AR. JAMES F. BARES, Tettenhall, Wolvernampton; A.I., Mr. W. B. Soott, Compton-road, Wolverhampton; S.C. B.E., Mr. Wm. Blakemore, Heath Town, Wolverhampton:—South Staffordshire and Worcestershire?
7.—Mr. JOSEPH DICKINSON, Pendleton, Manchester: A.I., Mr. J. S. Martin, Prestwich, Manchester; SEC. B.E., Mr. W. M. Peace, King-street, Wigan:—North and East Lancashire, called the Manchester district, and Ireland.
8.—Mr. HENRY HALL, Rainhill, Prescot; A.I., Mr. John L. Hedley, 3. Elm Vale, Fairfield, Liverpool; SEC. B.E., Mr. W. M. Peace, 19, King-street, Wigan:—West Lancashire, the Wigan and St. Helen's districts, and North Wales.
9.—Mr. LIONEL BROUGH, 11, West Mall, Clifton, Bristol; A.I., Mr. Thos. Cadman, Newport, Monmouth; SEC. B.E., Mr. J. T. Thomas, Coleford:—Monmonthshire, Gloucestershire, Somersetshire, parts of Glamorganshire, and Berconshire.

man, Newport, acommount; 582.5.E.A., art. 3. 1. Hennias, Cortext:—Monnotershire, Gloucestershire, Somersetshire, parts of Glamorganshire, and Breconshire. 10.—Mr. Thomas E. Wales, Brunswick-place, Swansen; A.I., Mr. William Galloway, Swansea; 58C. B.E., Mr. C. H. James, 8, Courtland-terrace, Merthyr Tydfil:—South Wales coal field.
11.—Mr. Ralph Moore, Rutherglen, Glasgow; A.I., Mr. J. T. Robson, Cambuslang, Glasgow; B.E., Mr. Robert Calder, 249, Renfrew-street, Glasgow:—Soctland: Eastern Division, including East Lanarkshire, Fifeshire, Clackmannanshire, Haddingtonshire, Edinburghshire, Linlithgowshire, East Stirlingshire, &c.
12.—Mr. WM. ALEXANDER, 23, India-street, Glasgow; A. I. Mr. John M. Ronaldson, 14, Apsley-place, Glasgow; ESC. B.E., Mr. C. Macopherson, 116, St. Vincentstreet, Glasgow;—Soctland: Western Division, including Ayr, Dumfries, Dumbarton, West Division of Stirling, and part of Lanarkshire.

-Mr. R. Hodson, C.E., of the Thames Ironworks Company, Blackwall, has patented an improved mode of utilising sawdust and shavings. The invention consists in burning sawdust and shavings (the latter being first disintegrated to bring them to a state of sawdust). The furnace being charged with a continuous stream of such fuel by the impelling force of a blast of air he is enable to keep up an intense fire suitable for generating steam and for calcining minera

EPPS'S COCOA-GRATEFUL AND COMFORTING .- " By a thorough EFF'S COCOA—CRATEFUL AND COMFORTING.—" By a thorout knowledge of the natural laws which govern the operation of digestion and nution, and by a careful application of the fine properties of well-selected cocoa, Epps has provided our breakfast tables with a delicately flavoured beverage what was many heavy doctors' bills. It is by the judicious use of such artiof diet that a constitution may be gradually built up until strong enough to revery tendency to disease. Hundreds of subtle maladies are floating around really to attack wherever there is a weak point. We may escape many a fish it by keeping ourselves well fortified with pure blood and a properly nouris frame."—Civil Service Gazette.

Original Correspondence.

ROCK DRILLS.

SIR,—We ask again the privilege of your columns to reply to ne letters of "Mine Agent" and "A Working Miner," in your

Ist.—We ask again the privilege of your columns to reply to the letters of "Mine Agent" and "A Working Miner," in your last issue.

When we had finally perfected such boring machines and appliances for the varied circumstances of mine work as proved to be thoroughly efficient, durable, and economical, we presumed the first to adopt such machinery would be the old-established paying of which would be disposed to use improved modern appliances. We thought that the application of compressed air as a motive operations, was sufficiently understood to warrant the conclusion that those who would profit most by the use of the means would soonest employ them. In such view of the case it would be the greatest economy to put down at once the compressor of a capacity that would answer to certain future requirements. Also the manufacturers who had made a specialty of that kind of machinery had till then been mainly occupied with the construction of large machines for extensive tunnel and other work, so that the procical application of the system on a large scale was quite conclusive. The pure air was a good thing to send down into the mine, at all events; and it did not imply the purchase and use of more than one rock-drill till that one should have shown the desirability of procuring others of the same kind, or of some other system.

Again, the adoption of the boring plant in its completest manner—working several machines simultaneously—is comparatively less expensive than mounting machines not plant in its completest manner—working several machines simultaneously—is comparatively less expensive than mounting machines in this way does not imply destruction and renewal of the appliances for mounting, as such part of the plant may be considered indestructible. Also the machine proper as to its principal material parts is durable, and does not require removal or renewal of the appliances for mounting, as such part of the plant may be considered indestructible. Also the machine some slight.

as to its principal material parts is durable, and does not require removal or renewing repairs any more than a steam-engine (to which your correspondent likens it) requires renewal when some slight repairs or renewal of insignificant parts may be required.

Your correspondent speaks of a driving for six men to work by hand, and we will presume that may be an ordinary or a frequent class of driving. Now, where six men can work at a face, either each man striking his separate drill, or three or four being strikers, the case may be there is abundant room to work six powerful. as the case may be, there is abundant room to work six powerful boring machines, and employment for double the number of men, And this is the true plan for making the greatest progress and the

boring machines, and employment for double the number of men. And this is the true plan for making the greatest progress and the greatest economy.

The advantages over hand labour are to be gained in this order:—

1. A simple means of mounting a single-light machine, or two machines, capable of being placed or removed by hand, but requiring more or less frequent shifting.—2. The use of a carriage suited for four or six machines, providing the support or point d'appui for attacking the face from various positions by simply changing the machine from one place to another successively on the carriage, thereby obtaining the angle and direction of holes required, and thus avoiding the loss of a part of the time in manipulation.—3. Having the full complement of machines in place on the carriage, and in case of insafficient power, changing the flexible tubing from one machine to another successively.—4. Having a sufficient power to drive the six machines simultaneously. The adoption of the one machine to take the place of the six hand workers may be considered the first long step in advance, and the other arrangements mentioned are successive shorter steps, to be availed of or not, as may be deemed expedient. To carry on in either way the successive operations of driving is as perfectly simple and easy for the commonest sort of mining workmen as can be imagined, and they could only be effected by better wages and employment for more of them.

* At the St. Gothard Tunnel, where day wages are in general much lower than in this country, the men can make from \$l\$, to 12, per month, and British miners with equal facilities would earn more, to make the greatest progress, double the number of men are employed which could possibly be occupied advantageously if the work were being prosecuted by hand labour. For sinking pits the advantages over hand labour are equally great, and less boring plant required. Fewer machines are employed, and these are worked from stands or stretchers, with the greatest simplicity of manipulation.

stands or stretchers, with the greatest simplicity of manipulation.

So much has been said about the mine captains, agents, and
managers, it would doubtless be very amusing to examine a series
of their photographs. Some illustrated paper should furnish a group of these famous functionaries for the satisfaction of the interest mining public.—London, Feb. 18. McKean and Co.

RAILWAY ACCIDENTS, AND THEIR CAUSE.

RAILWAY ACCIDENTS, AND THEIR CAUSE.

Sir.,—Being much engaged at present upon the subject of railroads and railway brakes, and having paid some attention to the evidence given by several of the engineers at the inquest on the Shipton accident, I cannot help saying that some of them gave the most erroneous answers ever given by sane men. For instance, one when asked where he would place the brake van when making up a train, said by all means at the front; another said it might be put anywhere in the train. Now, Sir, just let us see what would be the effect of this when a train is going up a steep gradient with the brake van in front should any of the couplings break. The whole train would be dashed to pieces, and yet with this danger before their eyes they give this unaccountable evidence. I say that any man making up a train in this way would be guilty of manslaughter in the event of a fatal accident occurring.

Let us look at a train of eight or nine carriages running at full speed, and we see at once a chain drawn out very tight. Now as long as you hold on to the rear end of this chain no harm can take place, because if you put on the brake it is simply holding the chain a little tighter till the train comes to rest, and there can be no jerk anywhere in doing so. But suppose you place the brake in front, what will happen then? Why, simply one carriage will crush that in front of it, and kill the passengers, or jump off the rails and roll down the embankment. My own opinion is that the cause of the Shipton accident was that the engine stopped the first carriage too suddenly. Of course there is every allowance to be made for a man acting on the spur of the moment, but still all ought to understand that the brake at the rear of the train should do all the work. A good deal is said just now about continuous brakes, but I should prefer a brake or two if required always at the very rear. By this good deal is said just now about continuous brakes, but I should prefer a brake or two if required always at the very rear. By this the chain of carriages remains unbroken, which is the great principle of safety.—James-street, Feb. 19.

John Walker.

[For remainder of Original Correspondence see this day's Sup

ENGINEERING COLLEGE IN JAPAN.—As an example of what a Government engineering college should be, we cannot do better than eite the institution at Tokei, in Japan. The Japanese Government are in just the same position as that of India. They want engineers, and they have established a college to supply them. The calendars of this college for 1873 and 1874 lie before us, and they contain a great steal that is eminently suggestive. The Imperial College of Engineering was established at Rokei in 1873, "under the orders of the Minister of Public Works," All the students are Japanese, and all the professors are British. The principal is Mr. Henry Dyer, O.S., M.A., University of Glasgow, while the professors of natural philosophy, mathematics, chemistry, drawing, and English literature are all men of high attainments. At the end of the calendar for 1874 examples of the examination papers are given, and, although these are easy enough, it redices no such a foreign languago—English—that they appear, on the whole, to have passed with much credit to themselves and their instructors. The course of training will extend over six years. During the first four years six months of each year will be spent at college, and six months in the practice of that purificular branch which the student may select. The last two years of the course will be spent wholly in practical work. The system of instruction will be purify what is usually called professoria and partly tutorial, consisting in the delivery of leatures, and in directions and assistance being given to the students in their work. Can anything be better than this, a more likely to produce the class of men that it was one of the student's education, maintenance, and clothing is defrayed for six years, the student binding himself, in return, to give his services as an engineer to the Government for seven years, dating from the time at which he leaves the college.

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Meetings of Bublic Companies.

COOK'S KITCHEN MINING COMPANY.

A general meeting of shareholders was held on the mine on Wednesday.

Mr. Walter Pike in the chair.

nesday.

The accounts showed a loss on the quarter of 609% 15s. 9d., rais—
The debit balance to 1805% 16s. 11d.

The CHAIBMAN remarked that although at the last meeting there
The CHAIBMAN remarked that although at the last meeting there
was a large balance against them they were very hopeful that a change for the bet—
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Mr. Don't coals consumed by each engine was a very practical one, and he should like tity of coals coarsed out.

Capt. THOMAS replied that there could not be the slighest objection to it, and is should be done in the future.

The report and accounts were passed, and a call of 10s. per share having been decided on, the meeting separated.

WEST FRANCES MINING COMPANY.

WEST FRANCES MINING COMPANY.

A meeting of adventurers was held on the mine on Wednesday,
Mr. W. Pike in the chair.

The accounts for the three months ending December showed a
profit of 119l. 6s. 7d., reducing the debit balance to 449l. 13s. 11d.

The CHAIRMAN remarked that in these bad times it was satisfactory to show even a small profit. In the last quarter they had sold more tin
factory to show a profit of about 120l. If they only had a fair average price for
enly able to show a profit of about 120l. If they only had a fair average price for
enly able to show a profit of about 120l. If they only had a fair average price for
in they should be returning handsome dividends. A very small increase would
turn the scale.—The agent's report was satisfactory.

Mr. RULE asked what had been the average price per ton paid for their tin
during the quarter.—The CHAIRMAN: About 56l. 10s. The highest was 58l. 15s.,
and the lowest 54l. 7s. 6d.—Captain THOMAS, in answer to a further question,
stated that the entire cost of raising tin at West Frances was about 52l. per ton.
In some mines, he was sorry to say, they were raising tin at a cost of 70l. per ton,
and selling it at 54l. West Frances tin realised a very good price.

The report and accounts were adopted, and the meeting terminated.

The report and accounts were adopted, and the meeting terminated.

SOUTH CROFTY.—At the meeting, on Wednesday (Mr. E. H. Rodd in the chair), the accounts showed a loss on the three months' working of 550l. A call of 1l. per share was made. The Chairman remarked that they were in a favourable position with regard to their arsenic. A short time since they thought 2l. 2s. a fair price, but last week they received 6l. 10s. 7d. per ton for it. He regreted that the balance was not in their favour, but the circumstances would explain the disastrous state of affairs that they, in common with all mines, were labouring under at the present time. The present desponding condition of the market might continue for several weeks, but he was not without hopes that after the expiration of a few months they would see a considerable change for the better. He could state on the best authority that the trade of the country was imporing. The demand for and consumption of the was unexampled, and there are every probability it would continue to increase. He had, therefore, strong hopes of better times. Referring to the north cross-out-Mr. Mayne asked what the lode was like in East Pool?—Capt. Josiah Thomas stated that that was where they were making all their tin. The former branches were about 6 in. wide; they had had these branches for 10 fathoms. They might get the lode in depth, where, so doubt, the branches would come together; they had had the lode the whole length of their sett, which was very important. It was a large lode in East Pool, and they had put more dependence upon this than anything else, but at present instead of a lode they had got these branches all split up. His own opinion was that they had better drive another cross cut at the 180 to meet it; that would be 20 tathoms deeper. They had a cross-course there, and they could, therefore, drive three times as fast.—The purser explained that the 580. balance does not include the remaining half of the month's cost, which was intended to be added to the present cost, amo

the adventurers of 1639%, against 1982%, the balance at the last account.

Frank Mills.—At the meeting, on Feb. 12 (Mr. W. Porter in the chair), the accounts for the twelve weeks ending Aug. 1 showed a debit balance of 1570. 14s. 8d., and a balance of liabilities over assets of 996%. 12s. 4d. A call of 8s. per share was made, and it was resolved that legal steps be taken for the recovery of the arrears of call (911%) and proportion of liabilities due upon forfeited shares. Mr. Murray and the purser had accompanied the captains underground, and were much satisfied with what they had seen. There had been considerable improvements since November, with prospects of still greater ones. About 1700% worth of lead ore will be produced in the next three months, and will be much increased during the year.

during the year.

CALDBECK FELLS.—At the meeting to be held on Thursday next the accounts for the six months will show a debit balance of 1053. 4s. 8d., made up of 764. 6s. 4d. loss on the six months working and 288t. 18s. 4d. debenture interest. Capt. Polglase expects the mine will be able to pay its way during the current half-year; and in reporting on the mine he states that the stopes in the back of the 20 are worth 25t. per fathom. The 10 end east is poor at present, but will meet with the known shoots of oreas they advance. They purpose driving the 20 west shortly is order to prove the shoot of ore westward. The lode in the 90 west has improved, and is producing good jack and kindly spar. He thinks they may expect lead here shortly. This is an encouraging point. The stopes in back of 80 will produce on an average 1½ ton of lead per fathom. The best and most encouraging report that he can write just now is that they expect to meet their costs for January and February months.

[For remainder of Meetings assato.day's Supplements.]

[For remainder of Meetings see to-day's Supplement.]

FOREIGN MINES.

HORNACHOS.—This company sold, on Feb. 2, 20½ tons of silver-lead cre, railsing 762. 17s. 8d.

STERRA BUTTES.—Result of the working at the Sierra Buttes and Plamas Eureka Mines for January—Sierra Buttes Mines: Receipts, 832,045; total California expenses, including cost of mining and milling, \$32,349.—Plumas Eureka Mine: Receipts, £33,635; total California expenses, including cost of mining and milling, \$32,349.—Plumas Eureka Mine: Receipts, £33,635; total California expenses, including cost of mining and milling, \$32,349.—Plumas Eureka Mine: Receipts, £33,635; total California expenses, including cost of mining and milling, \$32,349.—Plumas Eureka Mine: Receipts, £33,635; total California expenses, including cost of mining and milling, \$32,349.

CEDAR CREEK.—G. S. Powers, Nov. 4: Having investigated the Cedar Creek property, £33,635; total California expenses, including cost of the control of the control of the control of the control of the first standard to the control of the first standard to the right direction, and will bring the property out if judiclously managed. The channel above Xankee Tunnel, to shaft No. 1, is from 500 to 1000 ft. in width, where the two tunnels are supposed to unite and form a junction on the branch coming in from the east; the other from the south, or Gold Runside, and unting in the deep shaft claim. This tunnel will command all of the channel on its north and east line, and also on the east in the direction of the North Sitr and cunnel to shaft No. 1. Standard through the property of the Company to own the Carr and Flying First Claims; they would give them sufficient room, and afford a market for their water during the time it will take to complete the Yankee Tunnel to shaft No. 1. Judging from the amount of gold taken from the pile excavated whilst opening Jehoslaphat shaft, this claim will pay a handsome profit above the price of water and running expenses. Clay tunnel is being run for the purpose of taking the tailings from the Central claim. The Grey Eagle. Butterpise, and Bost

and permanent improvements and purchasing delates diminish.

INTERPRINTS (1907) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904)

WEST ESGAIR LLE.—The western mine continues to look well. The tributers are raising a large quantity of ore, and a parcel will be ready for sale next week. The cross-out towards the south lode is progressing favourably.

and the ground, as the lode is being approached, contains good leaders of lead and copper ores, speaking well for a course of ore when intersected. There are yet 4 or 5 fms. to drive to accomplish this. At the eastern mine the lode in the 34 east continues to improve. Some fine stones of lead are coming from this end, and no doubt they are now getting close to the run of ore ground gone down in the levels above. The tributers at this mine are doing well. All the machinery at both mines is in good working order, and everything going on well.

REPORT FROM MONMOUTH AND SOUTH WALES.

REPORT FROM MONMOUTH AND SOUTH WALES.

Feb. 18.—Turn where one will there is the same dismal and unsatisfactory state of things to be noticed in connection with the iron and coal trades of this district. No change has taken place during the week. No movement has been made by either masters or men towards a settlement of the dispute, and each side seems still to be waiting for the other to submit. We are at least a week nearer the end of the lock-out. The end must come sooner or later, and no one can fail to perceive which will be the defeated sid; whenever the end comes; so that the sooner it comes the better it will be for all parties. Perhaps a step has been made in one direction, and that is that the men have been disabused of the ideat at Lord Aberdare had favoured their side. His Lordship, in some or respondence with Mr. Thomas Halliday, the president of the Miners' Association, has stated most distinctly that the men should be counselled to submit, and not the masters, and that he will take the first opportunity to so advise them. It is really a pity to see the state of wretchedness the majority of the men have fallen into. In every direction applications have been made to the boards of guardians for relief, and the guardians are strictly instructed that the necessitous must be relieved. Steps to carry out this mandate are, therefore, being taken; and in a very short time a heavy burden will fall on the local rates. As many men as possible are being employed in stone-breaking. How humiliating is this to able-bodied and skilful working men! And all, it may be safely said, is brought upon them by the stubbornness of a minority.

Mr. Brogden has published a tabular statement, which shows that the men, if they only cut the same quantity of coal as they did in 1870, could, even under the reduction now enforced, earn from 6s, to 6s. 8d. per day; thus it may be seen that really good wages are thrown away.

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The sad results of the strike last month may be seen from a comparison of the returns of the trade of the South Wales ports with those of the corresponding month of last year. The coal exports were as follows:—Cardiff, 115,277 tons, against 255,470 tons in January last year; Newport, 17,542 tons, against 35,872 tons; Swansea, 30,352 tons, against 51,600 tons; and Llanelly, 5427 tons, against 8064 tons. The shipments of coal coastwise during the same period were as annoxed:—Cardiff, 43,094 tons, against 56,121 tons; Newport, 38,200 tons, against 51,927 tons; Swansea, 13,325 tons, against 15,321 tons; and Llanelly, 2071 tons, against 10,439 tons. The total quantity of iron exported during the month was only 13,535 tons, of which 4623 tons were cleared from Cardiff, 6159 tons from Newport, and 2753 tons from Swansea. The exports of patent fuel during the month were 15,663 tons from Swansea and 8452 tons from Cardiff. The state of the Iron Market continues dull, and does not give Welsh makers much hope of activity whenever the lock-out is at an end. Orders for any description of make are scarcely offered with any more freedom than at the beginning of the year, and prices are, if anything, less firm. At present the prospects for the year look anything but cheerful.

The few unassociated colliery proprietors in the district continue to do a brisk and profitable trade, and they can hardly be expected to entertain a very earnest wish that the lock-out will come to a speedy termination. Double turns are worked at their pits, and all the locked-out men that they can find room for in the workings are taken on, so as to make the very most they can to their present advantage. Apart from this, it is difficult to give a decided opinion as to what the st

REPORT FROM LANCASHIRE AND CHESHIRE.

REPORT FROM LANCASHIRE AND CHESHIRE.

Feb. 18.—The Iron Trade of the district, though still very dull, is decidedly steadier than last week, owing, doubtless, to the fact of the strike in South Wales having sent consumers into our markets. For hematite the demand has been considerably improved, and business in manufactured iron has been decidedly more brisk. General machinists are not busy, except in Oldham and the neighbourhood, where the joint-stock mania is doing an excellent turn for their trade. At Barrow-in-Furness a few good orders for steel rails have been placed, but the finished iron trade is still very dull.

Good qualities of coal continue in active demand, but inferior sorts are hard to dispose of. In this department of trade the South Wales dispute is, of course, having greater effect than in iron, and this is especially felt in the Liverpool market.

The first annual report of Messrs. Andrew Knowles and Sons (Limited), colliery proprietors, has been issued. The subscribed capital amounts to 1,250,000L, and the profits for the year have been 136,590L. The highest dividend which may be paid under the Articles of Association till the reserve fund amounts to one-fourth of the paid-up capital, and this has been declared, leaving 91,248L to be carried to the reserve fund. The net profits on the transactions of the paid-up capital.

At the ordinary quarterly meeting of the Lancashire and Cheshire Miners' Permanent Relief Society, held on Monday, the report for the past year was approved. The members have increased in number from 10,400 in December, 1873, to 14,430 in December, 1874, and the balance in hand, which in December, 1873, was 3300L, is over 7000L.

The joint-stock mania at Oldham increases, and there seems in many towns of Lancashire a saying that the working classes are being infected by the desire to make money out of shares. At one town, I am informed, a sort of open stock exchange is held weekly, and the transactions, which are mainly in purely local concerns, are carried on amid much exci

COPPER ORES.
Sampled Feb. 3, and sold at the Royal Hotel, Truro, Feb. 18. | And sold at the Royal Hotel, Truro, Feb. | Mines. Tom | 25 17 6 | East Caradon | 35 | 319 6 | Bedferd United | 70 | 414 2 0 | ditto | 40 | 6 | 12 0 | ditto | 37 | 31 6 | 6 | ditto | 37 | 31 6 | ditto | 37 | 31 6 | ditto | 43 | 44 6 | days | 44 6 | days | 44 6 | ditto | 43 | 44 6 | ditto | 45 Tons. ... 79 ... 78 ... 76 ... 70 ... 64 ... Mines.
outh Caradon
ditto
ditto
ditto Marke Valley ... | ditto | 31 | 4 | 3 | 6 | Phenix | 52 | 7 | 12 | 6 |
| Hingston Down | 102 | 2 | 1 | 6 | ditto | 95 | 2 | 4 | 0 |
| ditto | 95 | 2 | 4 | 0 | Duchy Great Consols | 19 | 11 | 5 | 6 |
| disto | 60 | 2 | 1 | 6 | ditto | 11 | 15 | 6 |
| disto | 73 | 4 | 5 | 6 | Treffry's Regulus | 30 | 15 | 10 |
| ditto | 73 | 4 | 5 | 6 | Calstock Consols | 12 | 3 | 4 |
| ditto | 54 | 4 | 14 | 6 | Belstone | 11 | 6 | 7 | 6 |
| ditto | 29 | 4 | 3 | 6 | Bewes's Ore | 4 | 6 | 5 | 6 |
| East Caradon | 72 | 5 | 1 | 0 |

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Registration of New Companies.

The following joint-stock companies have been duly registered:—
Gardden Lodge Coal, Coke, and Fire Brick Company (Limited).—Capital 60,000l., in 100l. shares. To acquire from the executors of the late Robert Greenwood, of Todmorden, and the executors of the late John Baron, of Holly Bank, Bamford, certain leasehold mines and seams of coal and fire-clay, together with plant, &c., at or near Gardden Lodge, Ruabon. The subscribers (who take one share each) are—Thomas Chadwick, The Grove, Urnstone, near Manchester, cotton waste dealer; J. Bounphrey, The Elms, Wavertree, gentleman; O. Turner, Manchester Old Road, Heaton Chapel, gas rent collector; John Lewis, Highfield House, Wavertree, fringe manufacturer; T. H. Horsfield, St. Ann's-square, Manchester, cotton broker; J. Crossley, Rochdale, cotton merchant; R. Collingwood, 28, Derby-road, Southport, cotton merchant. The qualification for director is five shares, and no special remuneration is fixed.

INMAN STEAMSHIP COMPANY (Limited).—Capital 2,000,000l., in 100l. shares. To take over for 600,000l. the business, fleet, stock, plant, &c., of the Liverpool and New York and Philadelphia Steamship Company. The first seven subscribers are—William Imman, Tower Buildings, Liverpool, 226; C. Birley, Bartle Hall, near Preston, 132; H. L. Birley, Rickham, 65; H. Birley, Rickham, 65; M. Langton, Fenwick-street, Liverpool, 52; E. H. Imman, 62, Tower Buildings, Liverpool, 35.

GOLDHERST COTTON SPINNING COMPANY (Limited).—Capital) The following joint-stock companies have been duly registered:-

Buildings, Liverpool, 17; and C. Inman, Tower Buildings, Liverpool, 35.

GOLDHURST COTTON SPINNING COMPANY (Limited).— Capital 50,000l., in 5l. shares. To carry on business at Oldham. The subscribers (all of Oldham, who take 10 shares each) are—S. O. Ward, J. Southern, S. Fielding, J. Hilton, W. Leach, J. Bradbury, E. Field STOCK LANE SPINNING COMPANY (Limited).—Capital 50,000l., in 5l. shares. The Stock Lane Mills, Oldham, will be acquired by this company. The subscribers (who take one share each) are—A. Buckley, Oldham; G. Rempsey, Chadderton; Thomas Greaves, Chadderton; Thomas Procter, Oldham; R. Jones, Oldham; Alfred Bamford, Oldham; and J. J. Norcross, Chadderton.

RIDGEFIELD COTTON SPINNING COMPANY (Limited).—Capital 50,000l., in 5l. shares. To acquire a mill at Failsworth. The subscribers (who take one share each) are—J. Mellor, Oldham; H. Quarmly, Oldham; E. Whensy, Oldham; C. Markham, Oldham. North MILL Spinning Company (Limited).—Capital 15,000l., in 5l. shares. To acquire a mill at Ashton-under-Lyne.

H. J. Wadling and Company (Limited).—Capital 20,000l., in 5l. shares. To carry on a banking business. The subscribers (who take 20 shares each) are—H. J. Wadling, 3, Elm-court, Temple; T. R. Thompson, 46, Winchester-street, Pimlico; J. S. Davis, 16, Abbey Gardens, N.W.; H. G. Luff, 3, Elm-road, Camden-square; J. E. Cussens, 66, Liverson-street, N.W.; J. White, Frampton Park-road, Hackney: and C. Bacon, Gervase-street, Islington.

Imperial Investment Associaton (Limited).—Capital 100,000l., in 5l. shares. To effect the purchase or sale of real and personal

Hackney: and C. Bacon, Gervase-street, Islington.

IMPERIAL INVESTMENT ASSOCIATON (Limited).—Capital 100,000l., in 5l. shares. To effect the purchase or sale of real and personal property, and to make advances by way of mortgage, &c. The subscribers are—H. Watkinson, Spalding, 10; A. Mirams, Inner Temple, 10; G. Smith, Coalville, Leicester; B. Shakespeare, 9, Burnardstreet, Russell-square, 10; J. Rowe, 9, Quality-court, 5; C. E. Pugh, Offord-road, Barnsbury, 1; and J. H. Kays, 2, New Inn.

BISCHOF'S PATENT SPONGY IRON FILTER COMPANY (Limited).—Capital 30,000l., in 10l. shares. To acquire letters patent for an improved filter. The subscribers (who take one share each) are—J. G. Banf, 8, Old Jewry; G. Bischof, George-street, Glasgow; E. R. Everington, 3, Paper Buildings, Temple; J. H. Morley, Lee-terrace, Lee; A. Barry, Shortlands; E. Dalmon, Lewisham; and F. T. Barry, The Clock House, Beckenham.

EUROPEAN REVIEW (Limited).—Capital 20,000l., in 10l. shares.

EUROPEAN REVIEW (Limited),—Capital 20,000l., in 10l. shares. o carry on business as newspaper proprietors, &c. The subscribers EUROPEAN REVIEW (Limited),—Capital 20,000k., in 10s. shares. To carry on business as newspaper proprietors, &c. The subscribers are—J. F. Harrison, 88, Cornwall Gardens, 5; Reginald Herbert, Clytha House, Usk, 5; D. Laulor, Castlelough, Kerry, Ireland, 5; R. Crawford, Bernard-street, Russell-square, 5; L. G. Dive, Milwick Manor, Stafford, 5; W. Froome, Ellaston-place, Queen's Gate, W., 5; T. Froom, Conduit-street, W., 3. Messrs. Blanchard Jerrold and M. A. Filon will be the English and French editors respectively.

LONGRIEL CONDANY (Limited).—Capital

M. A. Filon will be the English and French editors respectively.

LONGFIELD COTTON SPINNING COMPANY (Limited).—Capital
60,000l., in 5l. shares. The subscribers (all of Oldham, who take
one share each) are—James Booth, T. Collingwood, W. Shaw, J.
Wayne, W. Haynes, Hugh Shaw, and J. Taylor.

BELL MILL COMPANY (Limited).—Capital 20,000l., in 5l. shares.
To acquire a cotton mill at Oldham.

S. H. SWIRE AND COMPANY (Limited).—Capital 40,000l., in 5l.
shares. To take over the business of Messre S. H. Swire and Co. of

shares. To take over the business of Messrs. S. H. Swire and Co., of Ashton-under-Lyne, millowners, &c. The subscribers are—S. H. Swire, Ashton, 50; H. Lees, Cheetham Hill, Manchester, 50; A. Butler, Rowley, Ashton, 50; J. Radcliffe, Dunkinfield, 50; E. Crossley, Dunkinfield, 50; J. B. Rynder, Dunkinfield, 50; W. Chadwick, Dunkinfield, 50.

kinfield, 50.
NORTH MOOR SPINNING COMPANY (Limited).—Capital 60,0001.,

NORTH MODE SPINNING COMPANY (Initiati).—Capital 60,000., in 5l. shares. The subscribers to this company (who reside at or near Oldham, and take 10 shares each) are—B. Smith, S. O. Ward, B. Moores, J. Taylor, D. Maitland, J. Bradbury, and G. Newton.
Swan Cotton Spinning Company (Limited).—Capital 60,000l., in 5l. shares. The subscribers to this company reside at or near Oldham, and take 10 shares each.

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OFFICES,-118 AND 119, CHEAPSIDE, LONDON. The objects of this Society are: —To Protect the Interests of Creditors in all ca of Mercantile Failure. The Thorough Investigation of Debtors' Affairs. The P secution of Fraudulent Debtors; and the Speedy Recovery of Outstanding Det without the risk of incurring heavy law expenses.

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Mining Correspondence.

BRITISH MINES.

BRITISH MINES.

ABERDAUNANT.—8. Toy, Feb. 17: In No. 2 adit level driving east the lode is now discharging more water than it has for some time past, and is composed of worth 181, per cubic fathion for lead. In No. 1 adit the lode has improved since last week; it now contains much more sulphur, with soft spar, and occasional stones of lead. I am pleased to say that at present it is of a very kindly appearance, and I am hoging to meet with something better in this level soon.

I am hoging to meet with something better in this level soon.

I am hoging to meet with something better in this level soon.

I am hoging to meet with something better in this level soon. As shaft, the lode is improving, and now worth 81, per fathom for copper ore. In the 112 fm. level, west of No. 4 shaft, the lode is improving, and now worth 81, per fathom for copper ore. In the 112 fm. level, west of No. 4 shaft, whice lode is looking very promising, and worth 101, per fathom for copper ore. No lode taken down in the 70, east of No. 4 shaft, whice lode is improving, and now worth 81, per fathom; No. 3, 1 ton of copper ore per fathom; No. 2, 1 ton of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 4, 10 evits. Of copper ore per fathom; No. 5, 2 ton of copper ore per fathom; No. 5, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of copper ore per fathom; No. 6, 10 evits. Of coppe

ng 934/, 10s.
EAST DARREN.—Feb. 15: In the winze sinking under the 104 not anything

62 tons of ore were sold to-day to Mr. Adam Eyton, at 164. Its. 6d. per ton, realising 9344. 108.

EAST DARREN.—Feb. 15: In the winze sinking under the 104 not anything has been done since last reported on, in consequence of being unable to clear the stuff accumulated, which will be done the latter part of this week. In the drift west of cross-out, under the 80, the lode is 4 ft. wide, little improved, now yielding from 12 to 15 cwts. of lead ore per fathom. The tribute pitches throughout the different levels continue to yield fair quantities of lead ore. We are making fair progress in forking the water, being now down about 7 fms. under the 104. Our machinery is in good working order. Drawing and dressing progressing regularly, and shall sample to-morrow (Tuesday) 50 tons of silver-lead ore.

EAST WHEAL BASEST.—R. Pryor and Son, Feb. 16: There is but little alteration throughout this mine since last report. We have this day sampled 31 tons of copper ore. Friday next being our setting-day a full report shall follow.

EAST WHEAL GRENVILLE.—E. Hosking, W. Bennetts, Feb. 13: The winze below the 120 west has been holed. There is no other change to notice.

EAST WHEAL GRENVILLE.—E. Hosking, W. Bennetts, Feb. 13: The lode in the 130, west of engine-shalt, is 2 ft. wide, and worth 62, per fathom. In the 120 cross-out north we are meeting with branches; the ground continues favourable. There is no change in the 110 cross-cut south. The rise above the 110 cast is worth 82, per fathom. The stope above the 110 cast is worth 82, per fathom. The stope above the 110 cast is worth 82, per fathom.

FRON VELLAN.—Capt. Harper, Feb. 11: In answer to your letter, which received this morning, I beg to give you the following information:—I. With regard to the profit, we can at present return about 1 ton of lead ore per week with the present number of hands, and if No. 2 stope continues as at present (and I can see no reason why it should not) I shall be able to return more than 1 ton per fathom. This run has not been intersected in

to inspect the mine, after which I have not the least doubt but that the shareholders will be pleased with the report on the mine.

GAWTON COPPER.—George Rowe, George Rowe, jun., Feb. 13: The character of the lode in the 117, east of King's engine-shaft, is without change since last report. The south part of the lode in the 95, east of cross-out, is improving, worth 14'. per fathom. The 95, west of cross-out, is showing a very kindly appearance, and worth 18'. per fathom. The lode in the stopes in bottom of the 82 is worth 9'. per fathom. The lode in the stopes in back of the 82 fathom level is worth 8'. per fathom. The part of the lode now in the 82 cross-out is producing good stones of ore. The lode in the rise and stope in the back of the 70 is worth 10'. per fathom.

stones of ore. The lode in the rise and stope in the back of the 70 is worthild. per fathom.

GORSEDD AND MERLLYN CONSOLS.—Wm. Edwards, Feb. 18; Gorsedd Lode: In the driving east at the depth of the adit level the vein continues much the same as noticed in my last. The west drivage has improved, the lode being 6 ft. wide, and there is a strong current of water coming down from the roof, as well as from the forebreast, which I consider a favourable omen. The vein is taking its proper course, and will cross the road on the eastern side; according to this it is very possible we had not driven the adit far enough to meet the Merilyn lode. This will soon be found out as we proceed with the present drivage. The sinking of the Merilyn shaft is proceeding satisfactorily. We think we have only 8 yards

of the Merilyn shaft is proceeding satisfactorily. We think we have only 5 yards to reach the rock.

GREAT LAXEY.—F. Reddicliffe, Feb. 16: Deep Mine: There is nothing new to report in either of the ends at the 235. A little better progress is now being made in sinking Welsh shaft, which is now down 9 fms. below the 220. The 220. driving north of this shaft, has reached the point where a spit takes place in the lock, and the portion now being carried in driving is worth 200, per fathom, but, probably, the other branch will be found the most valuable when taken down, for the end driving south of Xo. 1 winze, and which is now distant only about 6 fms. for 7 fms., is on the said other branch, and is worth 360, per fathom. The new stope in roof of this level, off No. 1 winze, is worth 700, per fathom, and No. 2, 800, per fathom. The 120 end, is without change. A stope in roof is worth 300, per fathom. The 120 end is without change. A stope in roof sworth 300, per fathom. The 120 end is without change. A stope in roof when ye cross-cutting, we have reached a part worth 1500, per fathom. No. 2 is worth 300, per fathom. The 120 end is without change this place in the cross-cut in the 190 end something has just been reached which may prove, have reached a part worth 1500, per fathom. No. 2 is worth 300, per fathom. The 100 end is without change the place in the cross-cut in the 190 end something has just been reached which may prove, have reached a part worth 1500, per fathom. No. 2 is worth 300, per fathom. The cross-cut in the 190 end something has just been reached which may prove, have reached a part worth 1500, per fathom. No. 2 is worth 300, per fathom. The stope in the cross-cut in the 190 end something has just been reached which may prove a subject to the lock, and in following this up by cross-cutting, we have reached a part worth 1500, per fathom. No. 2 is worth 300, per fathom. The weak place in the cross-cut in the provent of the lock o

end driving north at this level produces a little blende only. No. 1 stope in soled the 140 is worth 25t, per fathom. No. 2 is poor, and stopped. The 135 end north produces but little ore at present for the part carried, but all the lode is not seen. The 110 end north is worth 80t, per fathom for the part carried. All the mechiner is in good order, and the dressing is going on as usual.

GREAT RETALLACK.—J. Harris, Feb. 13: The lode in the south side of the 40 continues to yield good work for blende, and the men are making good progress with their contract.

CHERAT METALLACK.—J. Harris, Feb. 15: The lock in the south said of the with thinker to pick pool work for beined, and the mea are making good of the with thinker to pick pool with the pick of the data of 15; do niched per fathors. We have commenced the pick of the pick

nn. NDRA.—William Rowe, Feb. 16: The adit end is set to drive on the nen, for the month, at 6. per fathom. We think it advisable to open

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NORTH POOL.—W. C. Vivian, Feb. 15: The lode in the 40, east of cross out, NORTH POOL.—W. C. Vivian, Feb. 15: The lode in the 40, east of cross out, is \$\frac{2}{1}\text{R}\$. wide, made up of spathose iron, quartz, chlorite, mundic, and copper ore. The is \$\frac{2}{1}\text{R}\$. wide, made up of spathose iron, quartz, chlorite, mundic, and copper ore. The is \$\frac{2}{1}\text{R}\$. wide, in which there are small cavities with crystals of yellow copper south wall \$\text{c}\$ in which in which there are small cavities on the very state of yellow copper south wall \$\text{c}\$ in which in which there are small varieties on the spathose iron. Asmall veln struck the lode is coming through these cavities in the spathose iron. Asmall veln struck of from the cross-coure in a south-east direction about \$16\$ fms. north of the lode, of from the cross-coure in a south-east direction about \$16\$ fms. north of the lode, on the plan we on which we are now driving east. By the dialling laid down on the plan we on which we are now driving east. By the dialling laid down on the plan we on which we are now far the whole of the ground driven through in the there. It should be noticed that the whole of the ground driven through in the there. It should be noticed that the whole of the ground driven through in the there. It should be noticed that the whole of the ground driven through in the constanting good stones of copper ore and blende. All the seams of this rock had containing good stones of copper ore and blende. All the seams of this rock had containing good stones of copper ore and blende. All the seams of this rock had containing good south-east direction as the branch, and therefore tend to a junction with the lode as we see the trace of the engine being now not quite 4½ strokes per minute.

NoRTH PRINCE PATRICK.—John Jones, Feb. 18: The driving along the NoRTH PRINCE part of the cross-containing good states as when I last reported. If there is any alteration in the lowest of the cross of the engine being part and the reflect part

when the lode is 2½ ft. wide, worth 1. Per lation. The reloted pitches are without the lode is 2½ ft. wide, worth 1. Pope, Feb. 18: The water is all drained from oLD TINGROFT CONSOLS.—J. Pope, Feb. 18: The water is all drained from oLD TINGROFT CONSOLS.—J. Pope, Feb. 18: The water is all drained from oLD TINGROFT CONSOLS.—J. Pope, Feb. 18: The water is all drained from oLD TINGROFT CONSOLS.—J. Pope, Feb. 18: The water is all drained from own for time. In the 10, west of Diamond shaft, the lode is 2 ft. wide, saving quality tinstone. In the 10, west of Diamond shaft, the lode is 15 in. wide, a good work for tim. In the 10, west of Boiamond shaft, the lode is 15 in. wide, a good work for time. He hade towards the adit for the purpose of ventilation, and at the same it will be back towards the adit for the purpose of ventilation, and at the same it will be back towards like adit for the purpose of ventilation, and at the same it will be back towards from equal to the produce of the end. be producing good tinstone equal to the produce of the end. be producing good tinstone equal to the produce of the end is going forward speedily. PAR'S MOUNTAIN.—T. Mitchell, Feb. 17: The ground in the 90 cross-out part of the proper ore; we are not yet through the office of the producing of the provential that the stopes are yielding much the same as usual, with the exception of ment. The stopes are yielding much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations tribute pitches are looking much the same as alser reported. Surface operations the going on very well.

self, but a constant moment in control with the control of the con see the south part of it we hope to have a further improvement. The stopes are yielding much the same as usual, with the exception of the south part of it we hope to have a further improvement. The stopes are yielding much the same as last reported. Surface operations are soing on JOSEA UNITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope, Feb. 13; Sumpp PEDN AND MEMORITED.—W. Tregay, W. Prideaux, J. Pope of years as we been private should have done. The water is now 4 fms. below the 100, at which there is should have done. The water is now 4 fms. below the 100, at which of black tin per fathom. In the 100 west we have resumed driving on the north ide, which produces about 104. worth to black which produces about 104. worth to black which produces about 104. worth of black tin per fathom. In the 50 west of the lode (north) is worth 184, per fathom. In the 40 west end the lode (north) is worth 184, per fathom. In the 41 morth control of the produces about 104. Worth of black tin per fathom. In the 41 morth control of the produces about 104, per fathom in the 42 morth cross-cut we have (north) is worth 104, per fathom. In the 43 morth control of the 42 morth 104, per fathom in the 104 morth 104

well for the eastern part of the mine. As the lode has so improved I consider it advisable to extend the level further previous to commencing to rise. This bargain has not been taken, but I shall set it on Monday.

ROMAN GRAVELS.—A. Waters, Feb. 18: The 95 north is worth 6 tons per fathom, and south it is worth 4 tons. The 80, south of Corfield's, is worth 4 to 5 tons per fathom. The 65, south of Stokes' winze, is in a 4 ft. lode, worth 4 tons per fathom. The stopes are yielding ore as for some time past. The new south engine-shaft is getting into harder ground than of late, owing to the presence of a strong sparty lode which has some into the shaft, and which is dipping towards the Roman lode. We expect a great improvement when down to the junction.

ROSEWALL HILL.—W. Bugelhole, J. White, Feb. 18: The lode in the new final-rod shaft sinking below the 25, is looking very promising, lode 18 in, wide, and worth 20, per fathom. The 25 cast, on Goole Fellas lode, is 2 ft. wide, and worth 37, per fathom. The 25 cast, on Goole Fellas lode, is 2 ft. wide, and worth 40, per fathom. The 25 west yields good stones of tin, but not enough to value.— North Carbona: The lode in the north carbona in the back of the 100, is very much improved since our last report, now 18 in. wide, and worth 30. per fathom. We are pleased to say that since the recent fine weather set in we have been draining the water out of the old mine very rapidly, but we fear that we shall not be able to get up all our tinstuff in time for the meeting next week.

SOUTH CONDURROW.—W. Rich, W. Williams, Feb. 18: We have cleared the 93 cross-cut to the end, which is extended south of King's shaft about 20 fathoms; we intend to urge on the drivage towards the lode as fast as possible. The 52 end, east our cost-cut, is worth 12. per fathom. The 52 end west is worth 28. per fin. The 70 end west is very hard, but the lode looks more promising, and is worth 19. per fathom. The 50 end, east of new shaft, yields some good tinstone, but the lode is small. The adit en

men, at 8. per fathom; lode 5 ft. wide, worth 12. per fathom. At the same level to stope, by four men, at 3. sep fathom; lode 4 ft. wide, worth 10. per fathom. No. 2 stope, by four men, at 2. its. per fathom; lode 4 ft. wide, worth 10. per fathom. We have one pitch working by three men, at 10s. in 11.

WEST TANKERVILEE.—Arthur Waters, Peb. 18: The stope in back of the 50, morth of winze, is worth 50. per fathom. The stope south of ditto is worth 30. north of winze, is worth 50. per fathom. The stope south of ditto is worth 30. north of winze, is worth 50. north of winze, is worth 50. north of winze, is worth 50. north of winze, in worth 50. north of winze, is worth 50. north of winze, in the stope south of ditto is worth 30. north of worth 50. north of winze, is worth 50. north of winzers in the stope south at that level forthwith. We have to day sold 20 tons of lead ore, resilising 180. 2s. per ton.

WEST WHEAL GORLAND.—J. Mayne, Feb. 18: There is no alteration to remark on in the different points of operation since my last report. Good progress is being made in driving west from the shaft and east from the bottoms, with the when I will send a full growt.

WEST WHEAL TOLGUS.—Feb. 18: There is nothing to report on in the 125 new as 2 ft. of water in the level, and we had to stop the engine this forencous for two or three hours to make a joint tight; in one of the bottom lifts it was leaking badly, and we could not stop it with the engine working, so we shall not be able to do much in the bottom level this week, nor can anything more be done than is being done; everything is watered with great care. The lode in the 16 end is 1 ft. the lode in the 55 end is 3 ft. wide, yielding 2½ tons of good to be opening wider. The lode in the tottom level this week, nor can anything more be done than is being done; everything is watered with great care. The lode in the 16 end is 1 ft. wide, yielding 2½ tons of good to be opening wider. The lode in the 50 end is 3 ft. wide, yielding 2½ tons of good to be opening wider. The lod

ECHOES FROM THE MINING MARKET.

There is not much improvement to record in the tin market, and

west. The rise in the back of the 120 west is worth \$\veeta_i\$, per fathom.

ECHOES FROM THE MINING MARKET.

There is not much improvement to record in the tim market, and tin mine shares generally are in rather a drooping condition. Stocks of the metal, both here and in Holland, continue to augment; and, comparing the quantity in warehouse on the 1st inst. against that on the same day two years ago, we find an increase of 4700 tons, the quantities being 2500 tons, against 4500 tons. In 1573 prices were upwards of \$\veeta_i\$ per ton higher than they now are, but the enormous supplies that came from Anstralia increasing, and hast mouth 720 tons were shipped, against 617 tons in 1874, and 356 tons the year before.

The copper market had been rather frome during the past week, owing to the received of the control of the co

The Master of the Rolls has appointed Mr. Cape (Cape and Harris) the official liquidator of the Teplitz Colliery and Coal Oil Company (Limited).

CONSUMPTION—DR. LOCOCK'S PULMONIC WAFERS.—"The Convent, Temple-street, Wolverhampton.—Drah Papa: The Dr. Locock's wafers you sent me completely cured my chest. I do not think I could have lived had it not been for them.—Teresa Norman. To Mr. Norman, 29, Smith-street, Warwick."

Dr. Locock's wafers give instant relief, and taste pleasantly. Sold by all druggists, at 1s. 1½d. per box.

AUSTRIA AND THE EAST.

AUSTRIA AND THE EAST.

The interesting and well-considered series of articles upon this subject by Dr. Peez has just been reprinted in pamphlet form* from the Neuen Freien Presse, and is well worthy of the thoughtful attention of Englishmen. Dr. Peez points out the important part which Austria has played in connection with affairs of the East, from which, indeed, she even derives her name. Old Ostmark was, in a military point of view, Europe's bulwark, established for the closing of the Danube, by way of which, from the days of Attila in the fifth century to the last siege of Vienna by the Turks in 1683, the desolating storms of the Turks and Tartars against Christianity came, and Dr. Peez contends that it is the destination of Austria, in consequence of her geographical position, to become the channel through which the commercial and business political relations of Central and Northern Europe with the East must be carried on. If trade and commerce be not developed in the valley of the Danube to the same extent as on the more frequented Seince or Thames, and if at the mouths of the Danube no Holland or Belgium has been created, as at the mouths of the Bahine, the Mass, and the Scheldt, the reason can in no way be attributed to any interiority of the Danube district in the gifts of Nature—for it is, on the contrary, noted for its great fertility—but the true cause of its backwardness to the natural slowness of the Asiatio people, for which rich meadowy steppes of Moldavia, Wallachis, and Hungary, as well as the southern slopes of the Balkan, has been a permanent boundary.

The prospect of Austria's participation in the Eastern trade, as Dr. Peez very truly observes, has become a question of establishing means of communication.

slowness of the Asiatio people, for which rich meadowy steppes of Moldavia, Wallachia, and Hungary, as well as the southern slopes of the Balkan, has been a permanent boundary.

The prospect of Austria's participation in the Eastern trade, as Dr. Peez very truly observes, has become a question of establishing means of communication. The railways which have been determined upon for opening up the Indo-Oriental trade through Austria may be regarded as of two parts—the European and the Asiatic. The European lines, usually regarded as the Turkish lines, are those from the Bodinan frontier to Constantinople, and from the Berbian frontier to Salonichl, both of which are now nearly finished, and will doubtless prove of great advantage to Austria. With regard to the establishment of complete railway communication with India by way of Asia Minor and the valley of the Euphrates, he observes that without the aid of English capital the completion of the project is likely to be long deferred, but he thinks it can be shown to be to the advantage of England to support such an undertaking. The engineering difficulties in the way of establishing such a line of communication would be quite unimportant, but that they could prove of a remunerative character to the capitalists providing the funds, cannot be expected; indeed, it would be practically impossible for such a line to earn profits upon the outlay made upon it, and it is to this fact, and not to political motives, that Dr. Peez should attribute the little attention which the various projects for a railway through Asia Minor and the Euphrates Valley has received from British capitalists. The comparison which has been made between such a line and the long lines in the United States is simply absurd, since in the Euphrates line the sole reason of construction would be to establish a through traffic for merchandise, which could be much more conveniently carried by other routes, whilst in the case of the United States lines they are made through regions already peopled, or bein

the information that can be required.

" "Oesterreich und der Orient: eine handelspolitische Studie," von Dr. J. U ALEXANDER PEEZ. Wien: F. Meyer, Tuchlauben.

DOWSING AND DIVINATION -JACOB'S ROD.

DOWSING AND DIVINATION—JACOB'S ROD.

It is, indeed, marvellous, almost as miraculous as the drawing of water from the rock of Horeb by mere smiting, recorded in the volume, the truth of which is not to be denied, to find persons in the nineteenth century, and apparently in full enjoyment of their reasoning faculties, who entertains the smallest particle of belief in the efficiency of the divining rod for facilitating the discovery of springs, mines, and minerals, yet there are probably no works recording the early myths which were accepted previously to the diffusion of scientific truths which are so interesting and amusing, especially to menengaged in 'connection with mines and minerals, as those which describe the character and alleged powers of the dowsing-rod. The latest contribution to rhabdomantic literature' is not less interesting than its predecessors, and the absence of the title of the work from which the translation is made will not lessen the number of readers who will take pleasure from the perusal of its pages. The translator is evidently a spiritualist of very decided views, and is, therefore, a very decided advantage over many who will read his book, since he is enabled to excreise an amount of freedom in giving his record which many could not aspire to.

The work in question premises that "The most healthy philorophy allows that the stars influence all sublunary things, and that the quality which is proper and individual to each body, animate or inanimate, depends absolutely, or derives its nature from that which the star impresses on it which rules over it, even from its generation; "and itshould be impressed upon every reader of works of the nature of Jacob's Rod that unless he admits the truth of this premises he must acknow ledge that that the assertions of those who accept it as the basis of their philosophy must, to use the mildest language, be received with the gravest doubt. Trusting, then, that the volume will not fall into the hands of any suffering from the lamentable disease of psy

that is to say, of gold, silver or brass, wire, or whalebone—to seek for things of this mature, as it is evident that it would not turn for the same kinds of which it is composed."

The directions given for searching for minerals differ somewhat from those ordinarily given. As the rod was alleged to turn both to water and to minerals the removal of an objection became necessary; but upon this point the author was not at a loss. He remarks that "Those who search for metals would not wish to find water; on the contrary, as it might deceive them in causing the rod to turn the same as the metal, which may be above or under, and may cause them excessive expense to exhaust it from the mine when it is found with it, they would prefer that there should not be any at all. To extricate one from this embarrassment one tries before everything to ascertain if there is any spring in the place where the rod turns, and in order to discover it at the time of the search one has the precaution of putting a wet rag at the cud of the rod, and when one sees that this linen does not stop this movement one knows at once either that there is no water, or that if there is it is joined withhom the mineral, &c., after having touched it with several metals, or minerals, &c., without their stopping, one draws again this conclusion, that there are no metals, or minerals, &c., in these places, or that with them there are also other kinds which continue this movement, such as a dead body, a boundary, &c., for a dead body one must touch it with some rotten or putrified animal matter.

It is also held as a rule that the kinds do not oppose each other, and that when, for example, instead of three kinds that are hidden one would touch the rod with six either at the end or in the hand, it is certain that the three superfluous ones will not prevent its movement, as the defect of one of the three could continue it. All that this abundance can produce is confusion and embarrassment to know which of the six are not there; to extricate oneself one must

not suffice to stop the movement one must again try these minerals and their compositions in any way one can think of until one has found the one which was wanted to stop the movement."

The three succeding chapters profess to explain by what means one may know the width of the hidden springs and mines, the depth of sources or metals, and the size of sources or of mines, and contain nothing more than usually absurd; but the teath chapter is really astounding, since it professes to teach the method of using the divining-rod for discovering boundaries, roads, or paths. Referring to boundaries, it is stated that "the first rule that must be observed for the discovery of limits is that of holding the rod couchee (lying), or half couchee, it turns at the moment that we are over the limit, and over the space between two limits, which serve as separatio; from one limit to the other, when even there shall be no trace to mark it. But it must be observed that the movement which takes place over the limit, or over the width of the separation, is different from that given over the length. Over the limit or over the width it turns always in lowering, and over the length. Over the limit or over the width it turns always in lowering, and over the length. Over the limit, and not only over the place where its, but also in that when the length always in going up towards the stomach, as if one were following a spring or the vein of a mine. The second is, that the rod turns as well over the visible as over the hidden limit, and not only over the place where its, but also in that when the length always in going up towards the stomach, as if one were following a spring or the vein of a mine. The second is, that the rod turns as well as in all the space that it ought to occupy in length, which indicates and serves to recognise the true place of the separation when the limit has been changed without the common consent of the proprietors. The third is, that as metal atogs the movement for metal, wet r_i go the separation when the limi

"Jacob's Rod: a Trandation From the French of a Rare and Curious Work, D., 1893, on the Art of Finding Springs, Mines, and Minerals by Means of the axel Rod." By TROMAS WELTON. London: The Translator.

natter proper to cause its movement." He thinks that all the movements can be xplained, and referred to physical causes, but his ideas of what physical causes re certainly do not agree with those of acknowledged authorities of the present age.

By the publication of the volume Mr. Welton has entitled himself or the thenks of every wight thinking individuals.

are certainly do not agree with those of acknowledged anthorities of the presentage. By the publication of the volume Mr. Welton has entitled himself to the thanks of every right-thinking individual, and he has shown that whatever may be the shortcomings of spiritualists stupidity is certainly not one of them. He affords abundant evidence that all who have maintained the efficacy of the dowsing rod have done so for their own individual benefit, and that although their writings display the most profound ignorance of the simplest elements of scientific truth, they have succeeded, and probably will continue to succeed, in duping a sufficient number of weak-minded persons to make their avocation highly profitable. In many of the books published upon the subject there has been an effort to combine truth with fiction which has rendered the perusal of them dangerous to a certain class of readers, but Mr. Welton's work has no such defect; he gives the statements as originally made by their authors, and wisely avoids all efforts to give an air of truthfulness to statements which are obviously untrue. He explains the process of psychologising with precision, and thus enables even the most thoughtless to comprehend how the trick is performed, not the least amusing direction being that the operator is to avoid choosing those who to comprehend how the trick is performed, not the least amusing direction being that the operator is to avoid choosing those who have their eyes wide open, but to select those whose visual organs have a tendency to close. It is, probably, the most complete account of the dowsing rod that has been published, and the addends, which Mr. Welton has collected from various sources, prove beyond question that the ignorance which prevailed in 1693 has not been dispelled, notwithstanding our boast of the progress of science, even in 1875. The volume deserves a place in the library of every rhabdomancist, whilst those who neither believe in dowsing and divination nor fear the effects of psychologism will derive a couple of hours' real amusement from the study of it.

With this week's Journal a SUPPLEMENTAL SHEET is given With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: - Original Correspondence: Gold and Silver Mines of Gilpin County, Colorado (C. S. Richardson); Mining Claims in America (H. Syme); American Slate Trade (R. L. Williams); Mining in Australia (J. Hunt); Mining in New South Wales; Javali Mine; Rock Drills (G. W. Denys); Legitimate Mining, and What is Implied Therein (R. Knapp); Providence Mines (E. Trythall); Mine Accounts; Successful and Unsuccessful Mining (T. H. Allen); Wotherton Mine, Traction-Engine, and Railways (J. Yelland, W. Boustred); Close Hill Colliery (W. H. Harrison); Bedgelert; and its Slate Quarries.—Foreign Mining and Metallurgy—Australian Mines Reports—Foreign Mines Reports—Foreign Mines Reports—Foreign Mines Reports—Box (M. Symes Chosel), Mining and Metallurgy—Australian Mines Reports —Wheal Abraham, St. Agnes Consols, The Lovell, Mid-Moonta, Merrybent Mining and Railway, Fitzroy Bessemer, Littledean Woodside Coal, West Wheal Seton, East Nant-y-Mwyn, and English and Australian Companies.

The Mining Market: Prices of Metals, Ores, &c.

| ALE: | TAL MARKET-LONDON, FEB. 19, 1875. |
|----------------------------------------------------------------------|-------------------------------------------|
| COPPER. & s. d. & s. | |
| Best selectedp. ton 92 0 0- 94 0 | |
| Tough cake and tile. 90 0 0- 92 0 | 0 Do., to arrive 8 15 0-9 0 0 |
| Sheathing & sheets 96 0 0 | Nail rods 9 10 0 |
| Bolts 99 0 0-100 0 | 0 , Staffd. in London10 10 0 |
| Bottoms 99 0 0-100 0 | 0 Bars ,, ditto10 10 0-11 0 0 |
| Old 85 0 0- 87 0 | 0 Hoops., ditto11 10 0-12 0 0 |
| Australian, Wallaroo 92 0 0-93 0 | 0 Bars ,, at works 9 10 0-11 0 0 |
| ditto other brands 88 0 0- 90 0 | 0 Hoops,, ditto10 10 0-11 10 0 |
| Chili bars, g.o.b 83 0 0-84 0 | 0 Sheets, single, & plates12 10 0-12 15 0 |
| Wireper lb. 0 1 0 | Pig No. 1, in Wales 5 0 0-6 10 0 |
| Tubes 0 1 01/2 | Refined metal, ditto 7 0 0-8 0 0 |
| BRASS. per lb. | Bars, common, ditto 7 15 0-8 0 0 |
| Sheets 9¼d10¼ | d. Do., merchant, f.o.b. 8 0 0-8 10 0 |
| Wire 9½d | |
| Tubes 12d121/2 | d. Do., railway, in Wales. 6 15 0- 7 0 0 |
| | Do., Swed. In Bondon. 10 0 0-11 0 0 |
| Yellow metal sheathing 81/d81/d | |
| Sheets 8d81/40 | |
| SPELTER. per ton. | Do., f.o.b. Type or Tees 4 0 0-4 5 0 |
| Foreign on the spot 23 7 6- | Do., Nos.3,4, f.o.b., do. 3 10 0-4 0 0 |
| to arrive 23 10 0 | Railway chairs 5 0 0-5 5 0 |
| ZING. | , spikes12 10 0-14 0 0 |
| In sheets 30 10 0 | Indian Charcoal Pigs, |
| TIN. | in London, p. ton 8 0 0-10 0 0 |
| English blocks £ 95 0 0 | STEEL. per ton. |
| Do., bars (in bris.) 96 0 0 | Swed., in kegs (rolled) |
| Do., refined 98 0 0 | Ditto (hammered)19 0 0-20 0 0 |
| Banca 98 0 0 | Ditto, in faggots20 10 0, — |
| Straits | n English, spring19 0 0-24 0 0 |
| Australian 88 0 0 | LEAD. per ton. |
| TIN-PLATES.* per box. | English Pig, com 22 10 0-23 15 0 |
| | Ditto, L.B22 15 0-23 0 0 |
| | Ditto, W.B23 10 0 |
| | 0 Ditto, sheet24 5 0 |
| IC Do., 2d quality 1 16 0- 1 17 | 0 Ditto, red lead24 10 0 |
| IX Do., 2d quality 2 2 0-2 3 | 6 Ditto, white30 0 0-32 0 0 |
| | 6 Ditto, patent shot26 10 0-27 0 0 |
| IX Ditto | 0 Spanish21 15 0-22 0 0 |
| Canada plates, p. ton., 18 10 0-19 0 Ditto, at works 18 0 0-18 10 | 0 QUICKSILVER(p. bot.) 21 0 0 |
| | |
| At the works, is. to is. 6d. per t | on less. † Add 6s. for each X. |

Terne-plates 2s. per box below tin-plates of similar brand.

REMARKS.—There has been no change of any importance to record with reference to the position of the Metal Market during the past week. With one or two exceptions, prices have been firmly maintained, and the amount of business transacted has sufficed to support the market. The fact that, notwithstanding the almost total absence of speculation, and the causes which are in operation to hinder the development of trade, prices continue to be as firm as they are proves incontestably the inherent soundness of the metal trade; and there can be but a reasonable expectation that as the spring advances, and the busy time of the year draws on, not only will there be a marked increase in the legitimate trade of the country, but, together with this, there is pretty sure to arise a speculative movement, which will cause a sudden advance in quotations to a point, perhaps, beyond that which they are entitled to attain through the simple operation of the laws which regulate supply and demand. Already projects are on the tapis which may impart a

through the simple operation of the laws which regulate supply and demand. Already projects are on the tapis which may impart a very important impulse to the metal trade, and more particularly to that branch of it which is suffering from lack of animation. Bank rate was advanced on Thursday to 3½ per cent.

COPPER.—At the commencement of the week copper was firm, and the tendency appeared to be upward; but as the week progressed the market became easier, business more restricted, and slightly lower prices have been accepted. At the moment the condition of the market is best described as sluggish, but in view of the comparatively small stocks of raw copper in first hands, and the bedition of the market is best described as sluggish, but in view of the comparatively small stocks of raw copper in first hands, and the belief that smelters are but poorly provided with furnace stuff, it may be expected that upon any increased demand for manufactured themarket will exhibit renewed activity, and prices advance. At all events, there is no reason at present to believe that any further material decline will occur, unless unexpectedly large supplies should come forward from the West Coast. The enquiry for manufactured copper for shipment continues, and the chief assignable reason for the existing quietude appears to be the slightly increased stringency in the money market. On Monday the sale of nearly 300 tons of Chili bars was reported, named brands, at 34., and g.o.b. 33. 10s. cash. Regulus to arrive has realised 16s. 9d. Wallarce, 93., and g.o.b. 83'. 10s. cash. Regulus to arrive has realised 10s. 9d. Wallarco, 93'., and Burra 90'. On Thursday Chili bars, g.o.b., changed hands at \$24. 12s. 6d. net cash, and \$3'. usual terms, also at \$3'. 10s. To day the market is quiet, without any alteration. Tough is quoted at 90'.; best select, 91'.; and 4 by 4 India sheets, 96'. Yellow metal, 5'.6'.

IRON.—The tendency of the pig-iron market in the North of Eng-land is to continue firm. It is not probable that there will be any important alterations in quotations so long as the uncertainty re garding the future course of events as between masters and garding the Juture course of events as between masters and met remains as at present. The commitments of buyers do not extend beyond the requirements of the moment. It is impossible to foresee the future, and it would argue very great want of ordinary caution to incur need less responsibility. Makers make for consumption, and as fast as theiron is made it is shipped off to foreign manufacturers of finished iron, or it goes into home consumption. The difficulty with the blast-furnace men can hardly be said to have consumption. The difficulty with the blast-furnace men can hardly be said to have been got over, although the reduction has been in some sort accepted. The quotations for pig-iron are as follows;—No. 1, 62s. 9d.; No. 3, 58s. to 58s. 6d. The quotations for finished iron remain much the same, but in consequence of the position of affairs in South Wales enquiries are more numerous in this district than they have been. The rail market is still very dull, although the enquiry for this description of metals has somewhat improved, but no orders of any importance have been booked. There has hardly been any variation at all in the Sootch pig-iron market during the week. The closing quotation for warrants to day is 73s. 6d.

Shipments.

Week ending Feb. 13, 1875.

Total increase for 1875 Total increase to the second total increa

and quotations have been barely sustained. There is no question but that sellers would be prepared to meet buyers' requirements in and quotations have been barely sustained. Inere is no question but that sellers would be prepared to meet buyers' requirements in the matter of price to some extent, with a view of booking a good order. English soft pig is quoted 221, 10s. to 221, 15s.; and soft Spanish, 221, to 221, 5s.

Spelter.—There has been a considerable demand for English hard spelter, and the sale of 120 tons is reported at 171, 15s. There are no transactions in Silesian spelter published during the past week.

week. Quicksilver.—Spanish affairs appear to exercise an important influence upon the position of this metal, which ever since the establishment of the new regime has gradually fallen in valua. The probabilities of supplies being interrupted by the Carlists or other disturbing causes being not so great, it is likely that this metal may ere long revert to quotations more nearly assimilating to those of former years.

Tix.—This market has been without animation throughout the week. Very little tin has changed hands, and prices are tending downwards. Straits is quoted 89% to 90%, and Australian of good merchantable quality 88%.

Tix-Plates.—The market is firm, and some makers are fairly supplied with orders.

TIN-PLATES.—The market is firm, and some makers are fairly supplied with orders.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening The Glasgow market for g.m.b. iron has been steady during the week. This morning the market opened with business at 73s. 10½d., warrants being scarce; this afternoon the closing price was, sellers 73s. 9d., buyers 73s. 6d. The closing price is afternoon's price, therefore, gives a ground on the week of 6d. per ton. The quotations on the London Exchange this afternoon were practically the same as Glasgow prices. We quote makers No. 1 from a follows: Gartsherre, 87s. 6d.; Coltness, 90s.; Calder, 90s.; Langloan, 90s.; summeries, 87s. 6d.; Coltness, 90s.; Calder, 90s.; Langloan, 90s.; Summeries, 87s. 6d.; Monkland, 75s. f.o.b. Glasgow; Glengarnock, 80s.; Engloan, 90s.; Summeries, 87s. 6d.; f.o.b. Glasgow; Glengarnock, 80s.; Engloan, 90s.; Summeries, 87s. 6d.; o.b. Leith; Kenniel, 82s. 6d. f.o.b. Bo ness. Our fordshire and Yorkshire keeps up tolerably well. There has been mad for Staft this week in sheet iron, hoops, and nail rods, and the demand for small rounds and squares for export is unabated. The stocks at the stores of the various railway engine factories were reduced to the lowest ebb in December last. From the beginning of the year constant moderately large orders have been given out by the different railway companies to the Staffordshire and Yorkshire houses for banding in the staffordshire ander the staffordshire and Yorkshire houses for banding in the staf

vanised sheet-iron continues unabated.

COPPER.—Messrs. Harrington, Horan, and Co. (Liverpool).—On the 5th inst. cablegrams from Valparaiso announced charters for the second half of January as 100 tons bars and 204 tons ore for England, and 400 tons bars for Fzance. Notwithstanding the look-out in the South Wales coal trade, the copper market continues wonderfully steady, and during the past fornight prices of Chill bars have only fluctuated 20s, per ton. English copper is decidedly firmer, and is nestedly demand. Business transacted during the past fornight comprises about 1280 tons Chill bars on the spot at 82l. 10s. to 84l. 10s, per ton, and to arrive or with extra prompt about 415 tons bars at 83l. 10s. to 84l. 10s, per ton, 780 tons regulus to arrive here sold at 18s. 9d., and to arriveat Swanses 982 tons ore at 16s., and 318 tons regulus at 16s. 6d. per unit. Arrivals here during the fortnight of West Coast, 8.A., produce: – Birdstone, from Valparaiso, 100 tons bars; Potosi, 21 tons cores, 603 tons bars, 33 tons Barilla. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

Ores. Regulus. Bars. Ingots. Barilla.

Liverpool. 21 — 9,857 463 33

Swansea 605 1767 988 —

Total 626 1767 10,845 463 33

Messrs. Pixley and Abell.—Gold: The demand for gold for the Continent continues to a moderate extent; the arrivals of the week have been sent away, and withdrawals from the bank, to the amount of 233,000., have taken place. The existing orders are likely to absorb all immediate arrivals, and it is probable that further recourse will have to be made to the Bank, as the shipments from America are likely to stop, and of the amount due on the 220d inst. from Laustralia (493,490.) 208,000. consists of sovereigns; the remainder, in bars, will be taken for export. We have received 10,900.f from the West Indies, 60,000. from New York, 6030.f from the Bank this day for transmission to the staemer from Japan. The Mosel has taken 34,000.t to New York, and 100,000.t in sovereigns have also been taken from the Bank this day for transmission to the same place.—Silvens: The arrivals during the week comprise 34,840.f from the West Indies, and 80,000.f from New York. These amounts have been sold at 57½d, per oz., which may be considered as the present quotation. The Tagus takes 5800.t to the West Indies, and the Deccan 194,500.to Bombay, including 164,500.to account of the German Government.—MEXICAN DOLLARS: The French steamer brought about 26,000.t to 8t. Nazaire on English account, and 14,000.f or

The MINING SHARE MARKET has been dull this week, and without any particular feature to notice, except a great and general fall in the quotations for tin mines. The principal transactions have again been in lead mines, embracing Tankerville, West Tankerville, Roman Gravels, South Roman Gravels, Van Consols, Pennerley, ville, Roman Gravels, South Roman Gravels, Van Consols, Pennerley, and others. In copper mines there have been enquiries for Parys Mountain and Marke Valley. In tin mines scarcely any business doing. At the Cornish Ticketing, on Thursday, 1966 tons of copper ore were sold at 9744. 8s., or an average of 4l. 19s. per ton, The average standard 113l. 16s.; produce 6\frac{3}{2}, being an advance of 1l. 12s. Carn Brea have declined to 40, 45, a fall in a few weeks of nearly 20l. per share. Cook's Kitchen have declined to 8, 8\frac{1}{2}; Dolcoath to 45, 47\frac{1}{2}; Tincroft to 24, 26; East Lovell, 6\frac{1}{2} to 7; Wheal Kitty (St. Agnes), 4\frac{1}{4} to 5\frac{1}{2}.

Old Treburgett, 8s. to 10s.; the accounts issued preparatory to the general meeting, and dating from Jan. 17 to Dec. 31, show sales of silver-lead ores, 15,135l. 5s. 10d.; the expenditure for costs, 9754l. 14s. 5d.; materials. 2347l. 12s.; carriage of ore, 198l. 8s. 11d.; royalties, 1488l. 8s. 8d.; London expenses, 551l. 8s. 1d.; dividends paid to the shareholders, 1644l. 3s.; balance in hand, 351l. 17s. 7d. During the year, the report states, upwards of 1000l., included in the costs, has been expended in alterations and additions to machinery, and in permanent works that will reduce the costs in future.

chinery, and in permanent works that will reduce the costs in future. In regard to the mine, the returns have lately fallen off, but in a special and most exhaustive report which has also been published,

it is state upper let the deep lead ore this repo at 94 to Thursda West Ta 30% per 38%; the Pennerle West balance 58424.

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it is stated that, judging from what has been discovered in the upper levels, it is reasonable to anticipate great improvements when upper levels are advanced so far as to come under the shoots of the deep levels are advanced so far as to come under the shoots of the deep levels are advanced so far as to come under the shoots of the deep levels are advanced so far as to come under the shoots of the deep levels are advanced so far as to come under the shoots of the deep levels are so change in the mine since last report, and on at 9t to 9; there is no change in the mine since last report, and on at 9t to 9; there is no change in the mine since last report, and on at 9t to 9; there is no change in the mine since last report, and on at 9t to 9; there is no change in the mine since last report, and on at 9t to 9; there is no change in the mine since last report, and on at 9t to 9; the stope in back of the 50 is worth west Tankerville, 19s. to 21s.; the stope in back of the 50 is worth west Tankerville, 19s. to 21s.; the stope in back of the 50 is worth west Tankerville, 19s. to 21s.; the stope in back of the 50 is worth west Tankerville, 19s. to 21s.; the stope in back of the 50 is worth west Tankerville, 19s. to 15s. Great Laxey, 11 to 11½.

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Pennerley, 1½ to 13

Valley, 223, 03. 10 205; I asys intolatin, 03. 10 105; Penstruthal, 128, to 14s.; Prince of Wales, 7s. 6d. to 10s.; Providence Mines, 4to 44.

South Carn Brea, 17s. 6d. to 20s.; South Condurrow, 4½ to 4½; Treleigh Wood, 5 to 7; Van, 23 to 24; Van Consols, 1½ to 2½; West Treleigh Wood, 5 to 7. West Chiverton, 2½ to 2½; West Frances, 9½ to 10; West Tolgus, 65 to 67. Wheal Grenville, 4 to 4½; the mine is now in fork to the 160. Wheal Peevor, 5 to 5½; the mine sold 446 tons of tinstuff this week for over 800ℓ. Court Grange, ½; the lode in the winze sinking to the 16 is said to have improved to 13ℓ. per fathom. Wheal Uny, 2½ to 3. Chontales, 10s. to 12s. 6d.; the advices this month show a profit of 76ℓ on the month. The ore crushed (1595 tons) produced 256 cos. of gold, value 682ℓ. Owing to the Christmas holidays and shortness of labour more ore could not be brought to the mills, but the agent hopes to do better for the future. Javali shares have advanced to 8s. 10s. and have been in fair demand. The advices show a profit of the month of 762ℓ. 4s. 4½d. The quartz crushed (1300 tons) in 2½ days yielded 525½ cozs. of gold, valued at 1370ℓ.; expenditure, 750ℓ. 3s. 7½d. Almada and Tirito, ½ to ½; Birdseye Creek, ½ to ½; Eberhardt and Aurora, 4½ to 5; Emma, 1½ to 2; Flagstaff, 2½ so 3½; Frontino and Bolivia, ½ to ¾; Last Chance, 1 to 1½; Malpaso, ½ to ½; Eberhardt and Aurora, 12s. to 14s.; Sweetland Creek, ½ to 2½; Tecoma, 1½ to 1½.

The Market for Mine Shares on the Stock Exchange during the week has been somewhat less active, although in some leading descriptions a fair amount of business has been transacted at full quotations. Home Mines have again been chiefly represented by lead mines.

lead mines.

In the American department the most prominent feature has been a renewed demand for Flagstaff and Tecoma shares, both of which have been in prominent request at advanced prices. With regard to Flagstaff, it is understood that the negociations have been all but satisfactorily concluded for a complete and final settlement of all questions in dispute, and upon terms favourable to the shareholders. According to reliable private sources, the mine has been placed in a most effective working condition, and that under present management the "reserves" have been largely increased, and its producing capabilities augmented. Tecoma shares have improved upon the apparently well-authenticated statement that the lease has been executed, and the first instalment paid. It will be recollected that the amount to be received under this arrangement is equal to 5 per cent upon the par price of the shares (10%) for the first two years, and at a higher rate if the further terms shall be accepted by the shareholders.

attherint, 29t. to 29s.; a slight breakage in Schlese at little interset upon the par price of the shares (NC) for the first two years,
and at a higher rate if the further terms shall be accepted by the
anabolders.

As the shares have been in good request during the week.

As hat advices report abundance of rain, assuring mineowners of
the star advices report abundance of rain, assuring mineowners of
the part of perms, steady. Birlseys Greek firm at quotate the
treathest supply of water during the season. Cedar Creek site in property of the start of the st manent character of the recent discovery, which it is anticipated will yield sufficient quartz to supply at least 30 additional heads of stamps. London and Californian, \(\frac{1}{2}\) to \(\frac{1}{2}\); the winze below the prospect level is being sunk in a rich vein, 12 feet wide, yielding quartx worth \(\frac{1}{2}\) for one per ton. Port Phillip have declined to \(\frac{1}{2}\), \(\frac{1}{2}\) in consequence of rumours that it may be necessary to make a call to meet the cost of sinking another shaft to facilitate the development of the vein at the deepest level.

aber the cost of sinking another shall be about the value of of the vein at the deepest level.

Dun Pedro, $\frac{1}{8}$ to $\frac{3}{8}$ dis.; the produce for December was 834 ozs., of the value of 3075k; the cost 243kl, leaving a profit of 640l. Port Phillip, $\frac{3}{8}$ to $\frac{3}{8}$; for the four weeks ending Dec. 2, 3011 tons of quartz

were crushed, and 16 tons of pyrites treated, and 798 ozs. 16 dwts. gold obtained, the average having been 3 dwts. 5 grs.; the profit was 2041; for January the yield was 4 dwts. 7 grs.; the average yield for the corresponding months of the preceding year was 5 dwts. 4 grs., and 4 dwts. 17 grs., respectively.

Blue Tent, 5 to 5½; operations are progressing satisfactorily. A letter, in another column, explains that the reason why only a partial clean-up was made, as cabled last month, was that the rain set in so steadily the agent considered it more advisable to utilise it than to let it waste while the clean-up was being finished. Cedar Cre. k, 1½ to 1½; washing is progressing steadily, and with every appearance of a good water season. Shares have been in request during the week. In another column we publish extracts from reports of an examination made by G. D. McLean, of Sweetland Creek, and G. D. Powers, of Birdseye Creek Mines; they are considered favourable, and most of the recommendations therein have been adopted. Sweetland Creek, 2 to 2½; a telegram from the agent this week announces that the run which has been in progress since last clean-up has ended, and has produced \$21,000 gross, or sufficient to meet all expenses, including taxes, tunnel, &c. This run has been conducted with great difficulty, owing to bad weather and short supply of water, and is not, therefore, at all discouraging; while the water question remains unsettled, of course, no washing can be carried on. This enforced idleness, it should be remembered, simply delays profits, but does not decrease the value of the property. Birdseye Creek. 2½ to 2½; a plentiful supply of water has enabled the agent to commence washing on three claims with very good prospects.

Colorado Terrible, 3½ to 3½, ex div.; the profits for December—

the agent to commence washing on three claims with very good prospects.

Colorado Terrible, 3\(^2\) to 3\(^2\), ex div.; the profits for December—2100\(^2\)—are now published. This makes the net returns for the last three months of the year 7000\(^2\), or at the rate of 28 per cent, per annum on the capital of the company. Scottish Australian, 1\(^2\) to 1\(^2\); the trade for November is reported as exceptionally inactive; the sales of coal for the month amounted to 4514 tons; for the corresponding period in the preceding years the sales were 12.642 tons. At the company's Rockhampton copper property about 30 tons of ore of from 20 to 25 per cent, and upwards have been raised, and about 40 tons of from 10 to 12 per cent.

Some attention has been again directed to the possibility of finding gold in Wales in paying quantities. The letter which appeared in last week's Journal shows that one sett so far promises well. The shares of the Gold (Company have been dealt in during the last few days at \(^1\) to \(^1\) dis. (1\(^1\) paid),

Emma shares have been less firm, at \(^3\), to 2, upon the assumption that, notwithstanding the influential efforts that are being made in a contrary direction, the petition to wind-up the company will be granted.

Van \(^2\) to \(^2\), the driving of the cross-cut through the lode at

granted.

a contrary direction, the petition to wind-up the company will be granted.

Van, 23 to 24; the driving of the cross-cut through the lode at the 90 is still impeded by the water, but the levels above are being rapidly drained. The 75 west has improved during the week. Other parts of the mine as usual. Van Consols, 1\frac{1}{3} to 2\frac{1}{3}; the main shaft is being pushed on with all possible speed to the 40 fm. level under adit, 85 fms. from surface. The lode in the 25 is yielding 4 tons of lead per fathom. There is no doubt that the right policy is now being pursued—deepening the mine as speedily as possible. Dressing of ore is being steadily pursued; the manager writes that he has another parcel of lead preparing for the market. Great West Van: the manager writes that the cross-cut from Eliza's shaft is being carried on to intersect the main lode, and, from the appearance of the rock, a good course of ore is ahead.

Pennerley, 1\frac{1}{2} to 1\frac{2}{3}; the mine is looking well. The end in the 130 is presenting a very favourable appearance, and the agent is expecting to meet with a run of ore here. The 65 end west, at Potter's Pit, is also just entering the run of ore ground gone down in the level above. Bog, 11s. to 12s. 6d.; there is no alteration at the mine. The ends are looking well. There is to be a meeting on March 1, when a resolution to take the mine out of liquidation will be proposed. Grogwinion, 3\frac{1}{4} to 3\frac{1}{2}; the company sold yesterday 50 tons of lead, at 15\lambda, 8s. 6d., to the Burry Port Smelting Company. This is a falling off of 7s. 6d. per ton. Wye Valley, 3 to 3\frac{1}{2}; every point in the mine continues to improve.

Penstruthal, 12s. to 14s.; mine opening out as well as any miner could expect: every point in operation is to value, shaft paying for sinking, and levels for driving; a continuation of the present value will make this property second to no tin mine in Cornwall. Cathedral, 20s. to 25s.; a slight breakage has caused a little interruption to steady opening

RICH MANGANESE ORE in large quantities. TWO SILVER-LEAD SETTS. Nominal prices.

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Particulars by letter.

ARMAND FALLIZE, Ingénieur, à Liége (Belgium)

SALT LAKE CITY, UTAH TERRITORY, U.S. AMERICA.

WILLIAM BREDEMEYER. MINING AND CONSULTING ENGINEER
U.S. MINERAL SURVEYOR.
Particular attention paid to Underground Surveys.

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Actices to Correspondents.

- a* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal shauld be filed on receipt; it then forms an accumulating useful work of reference.
- NEW PATENT LAW—"R." (Barnsley).—The Lord Chancellor's Bill is, no doubt, short of absolute perfection, but the principle of the Bill is generally acknowledged to be excellent. There is probably not one case in a thousand in which a poor inventor pays even the 5t. Government fee for the provisional protection (the money being usually furnished by a friend in better pecuniary circumstances), and the poor inventor, with only provisional protection, and unprepared to pay the remain fees, for stamps and agency, falling due between the application and the filing of the specification, is almost as much at the mercy of the capitalists as he would be with no protection whatever. Under the proposed Act the inventor will, as soon as the law officer's report has been given, have a property possessing a real money value, and, therefore, saleable. It is, no doubt, much to be desired that the stamp on application should be reduced from 5t. to 5s., which would, of course, enable every inventor to protect his invention without the aid of friends, and put him in the best possible position to sell it or secure its use.

 THE LONDON AND CALIFORNIAN MINING COMPANY.—Being largely interested in
- secure its use.

 THE LONDON AND CALIFORNIAN MINING COMPANY.—Being largely interested in this company, it is with pleasure that I congratulate my fellow-shareholders on the great improvement in the prospects of our mines. For if the new lode in the Amador Mine continues as rich as is anticipated I see no reason why we should not ere long be receiving large dividends from our property. And I confidently hope, within a very little time, to see the shares take a leading position in the market.—B. C. C.
- in the market.—S. C. C.

 How to know the Useful Ores—"K. H." (Truro).—There is no book giving the information you require with regard to prospecting in Australia, but it matters nothing, since copper ore of a given character is equally valuable wherever found, and can be recognised with equal facility. The little American work, "Underground Treasures, and Where to Find Them," by Prof. Jas. Orton, A.M.," published by Dustin and Worthington, of Hartford, Connecticut, would no doubt give you as much information as you require. You could carry all necessary apparatus in your coat pocket. The price is about 31.

 CANADIAN PLUMBAGO—"R. A." (Hampstead).—Not much, if anything, has been done towards introducing the Canadian plumbago into this country, but it was stated that the Patent Plumbago Crucible Company, of Battersea, had taken a large parcel for sample. The quality is excellent, and if your suggestion to establish a pencil factory and crucible works on the spot could be carried out it would, no doubt, be advantageous to the Dominion, and remunerative to those engaged, as you state.

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- as you state.
 The faatest railroad time on record is said to have been made not long since on the
 New York Central Railroad, by a special train, which carried a party of officials
 from Rochester to Syracuses, 81 miles, in 61 minutes.
 IRON INDUSTRIES OF LANCASHIRE, BY RICHARD MEADE, ASSISTANT KEEPER OF
 MINING RECORDS.—In this article, in last week's Journal, under the head of
 'Metal Extraction Works in Lancashire,' in 1873, the 'purple ore' (oxide of
 fron)—270,000 tons—should be read as yielded from all the works in Great
 Britain, and not from the seven works in Lancashire; the "burn ore" from
 which it was obtained amounted to, as there stated, \$23,910 tons.
- LEAD ORE."—Your communication not being authenticated with name and address, and being, moreover, a mere expression of opinion unsupported by evidence, cannot appear. As the value and prospects of the mine are not even discussed, it would seem that your letter has not been written from disinterested motives, or with the absence of personal animosity.
- motives, or with the absence of personal animosity.

 The Supplementare Sheet.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

 5TARE DEALING.—We never interfers in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of mest of the latter appear in our advertising columns.

 Rexived,—"M. D." (Saltash)—"J. D. E." (Eureka)—"J. B. B."—"Constant Reader" (London and Pacific Coast Mining Bureau)—"C. S. R." (Colorado)—Jethro Jethrington (Eureka)—"D. E. M." (New York)—"Tamar"—"Shareholder" (Van Consols)—"E. P."—"R. B."—"Constant Reader" (Leeds)—"Lombard" (Newfoundland Lead)—"An Old Shareholder" (Javall).

THE MINING JOURNAL,

Bailway and Commercial Gazette.

LONDON, FEBRUARY 20, 1875.

AMENDMENT OF THE PATENT LAWS.

The new Bill for the amendment of the law relating to the grant of Patents for Invention, brought into the House of Lords by the Lord Chancellor, is one which appears in every respect to meet the requirements of the case, since it secures the fullest justice to inventors, and will do much to prevent the existence of patents which are neither new nor useful. The agitation which has been made for the abolition of patents in this country has thus not only failed, but has probably contributed to bring about a modification of the law as will be gratifying to all classes. The Bill displays a due appreciation of the claims of inventors, but at the same time very properly rejects the idea that an invention is a tangible property, similar in any respect to property in houses and lands. In the case of a house or an acre of land full possession of either cannot be held by two persons at the same time, but in the case of an invention it is altogether otherwise; indeed, it may be affirmed that as a matter of fact, if a defect in a given machine, or in a given process, be pointed out to 20 competent workmen, 19 out of the 20 would suggest an effective remedy, and the remedy suggested by 10 out of the 19 would be the same. Now, inasmuch as there would here be 10 persons equally entitled to one and the same property, it is obviously absurd to argue that either of the 10 inventors have an inherent right thereto, since each one, assuming the remedy to be the creation of his own brain, would be equally entitled to claim it as his own property, regardless of the fact of another having previous claim to a similar creation. If actual and independent creation be admitted to give a right in one case it must be admitted to give an equal right in another. Hence it follows that, although copyright The new Bill for the amendment of the law relating to the grant admitted to give a right in one case it must be admitted to give an admitted to give a right in one case it must be admitted to give an equal right in another. Hence it follows that, although copyright can exist in consequence of the improbability of two authors or artists expressing the same ideas, and using the same language or figures to express them, the existence of patent right cannot be acknowledged, owing to the existence of the facts already mentioned.

But it by no means follows that because an inventor can possess

no patent right that, therefore, he possesses no claim for compensa-tion should he be the first to give the public the benefit of a new in-vention which has emanated from his brain. Far from it, and the grant of patents for invention, as a privilege but not as a right, has been recognised as the easiest and most equitable method of recom-pensing inventors, so that what the Lord Chancellor had to do, and has done so ably was to suggest the means of fully recompensing has done so ably, was to suggest the means of fully recompensing inventors with the least possible inconvenience to the public. The leading feature in the new Bill is that the principle of examining inventions, which has long been urged by the "Inventors' Institute" as desirable, and which has long been in force in the United States, has been adopted, and assuming such examination to be desirable has been adopted, and assuming such examination to be desirable, although that is exceedingly questionable, the Lord Chancellor's method of ensuring its efficiency leaves nothing to be desired. There are to be, according to section 6, from two to four examiners specially qualified for the office by legal or scientific knowledge; and, according to section 7, there are to be referees "specially qualified for the duty by knowledge of manufactures, arts, or science," and these referees are to be "distributed in panels according to their several qualifications." The obvious advantage of this will be that an invention involving a complicated chemical process will not be submitted to a cotton spinner, nor will the value of an invention for affixing soles to boots be submitted to the judgment of a chemist. The examiner and referees are to report to the Commissioners whether the invention is a proper subject for a patent within the Statute of Monopolies, whether the specification is sufficient, whether the invention is new as far as they can judge from an examination of former monopones, whether the specification is sumicient, whether the invention is new as far as they can judge from an examination of former specifications, whether the invention is in the nature wholly or mainly of a combination of known machinery, substances, or processes, and whether the grant, if any, for it should be limited to seven years, or whether by reason of the frivolous character of the invention, or for any other reason, it is not worthy of a patent.

After the law officer's report to the Commissioners upon the opinion of the examiner and referees, the Commissioners upon the opinion of the examiner and referees, the Commissioners are to make public the application and relative documents and report, and the applicant may then give notice of his intention to proceed with the application. If notice be not given within the prescribed time the

provisional specification thereupon ceases. If the law officer has reported against the application the applicant may, after notice to proceed, petition the Lord Chancellor for the grant and sealing of a patent. The 17th clause, again, is a very important one in the interest of inventors, since it provides that "a patent may be made to extend to any of Her Majesty's colonies and plantations abroad, except one in which it would be invalid by the law in force therein for the time being;" and a patent is to have effect as in the United Kingdom in every place to which it is so extended. And the 18th clause is not less important, for it authorises the extension of provisional protection to 12 months in the whole from the date of the application, and the extension of the time for sealing, so that the inventor with limited means at his disposal will not be made to suffer for his inability to make such rapid progress as the more fortunate inventor with abundant capital.

The improvement introduced with regard to foreign inventions

The improvement introduced with regard to foreign inventions will secure, as the United States law already does, the true inventor against the loss of his invention, for the Bill provides that in the against the loss of his invention, for the Bill provides that in the case of foreign inventions no patent is to be granted unless the applicant declares himself to be the first and true inventor, and no patent is to be granted in respect of a communication from abroad; where a foreign patent is in force the foreign patentee can alone be the applicant. Notice of every foreign patent in existence at the date of the warrant is to be endorsed on the patent, and the patent ceases on the cesser of the foreign patent first expiring. Some such provision as this appears absolutely necessary for the protection of home manufacturers, since it would be unjust to leave the English manufacturer liable to pay royalty after the foreign manufacturer has been relieved. A patent is not to prevent an invention being used in a foreign vessel in British waters, provided British subjects enjoy reciprocity in the foreign State to which such vessel belongs.

Leave to amend a specification is granted in such terms as to ensure equal justice to the inventor and to those opposed to the patent, and the revocation clause could, no doubt, be effectively applied in many cases as a substitute for costly litigation. Assignments may

and the revocation crass could, no doubt, to entertain any cases as a substitute for costly litigation. Assignments may be granted for England, Scotland, or Ireland separately, which will much increase the inventor's chances of getting his invention into use, and the existence of unworked obstructive patents is prevented by the provision that a patent may be revoked if the inventor or his licensees fail to put the invention in practice, or prove that he has made due efforts to do so. Where a patent is granted for seven years only it may be extended for not more than seven years longer, and the exposure of inventions at international, industrial, and other exhibitions, eartified by the Beaut of Market, little and other exhibitions. the exposure of inventions at international, industria, and other schibitions, certified by the Board of Trade as likely to promote art or industry, does not invalidate the inventor's claim to a patent. The mode of procedure is simple, and appears likely to prove efficient, and provision is made for the employment of an expert practically acquainted with the matter in dispute to assist the judge.

The principle of the Bill appears to be incapable of improvement, and consequently it to give expendent expendent of the principle of the Bill appears to be incapable of improvement,

and can scarcely fail to give equal satisfaction both to inventors and the public; whilst the only class—the patent agents—who appear opposed to it will probably find that it will not prove to their disthe public; whilst the only class—the patent agents—who appear opposed to it will probably find that it will not prove to their disadvantage. They will, perhaps, be unable to charge the comparatively high fees they have hitherto received, for whilst the Government fees payable during the first six months have amounted to 25L, the agent has usually received 25L to 30L for preparing documents and drawings; but as a compensation for this they will have a larger number of applications to make, and much less work than at present to perform. The connecting of the previously-granted foreign patents with the English will deprive the agents of some fees, but it will afford far greater security to the inventors, for it not unfrequently happens that from agents, who are neither chemists nor mechanics, undertaking to draw a new specification from the foreign descriptions forwarded to them, instead of merely making a correct translation and filing it, patents are at present obtained for inventions which have never had any existence except in the patent agent's fertile imagination, as the inventors, did they understand our language, would never recognise the descriptions as referring to the inventions which they had desired to protect; in addition to which, the descriptions are equally unintelligible to those connected with the same branch of industry in English-speaking countries. The system of preliminary examination, and the enabling of the examiners and referees to compare the applications, in the case of foreign inventions, with the original descriptions, will secure increased protection to inventors, and at the same time enhance the value of patent property generally. The progress of the Bill will be watched with great interest, and the result will be from time to time carefully placed before the readers of the Journal.

COAL IN THE UNITED STATES.

Pennsylvania, as all the world knows, is rich in coal resource rennsylvania, as all the world knows, is rich in coal resources, and measures appear to be in progress which are calculated to add very materially to the annual coal production of the State. The purchases of coal lands made during the past year by the Philadelphia and Reading Coal and Iron Company, added to those previously acquired, will make an aggregate of 100,000 acres. At present it is not intended to purchase any more coal lands except such few tracts of intervening lands as may be found to be necessary additions to the present estate. At the time when the Philadelphia and Reading Coal and Iron Company was first inaugurated it was not deemed. of intervening lands as may be found to be necessary additions to the present estate. At the time when the Phi'adelphia and Reading Coal and Iron Company was first inaugurated it was not deemed necessary for the company to become owners of collieries and miners of coal, it being considered that an acquisition of coal lands to be worked by tenants was alone sufficient for the purpose. The company's experience for one or two years as landlords showed, however, how utterly inadequate, under existing circumstances, the individual tenants were to develope and improve the estate. But few private persons had sufficient capital to open and conduct a colliery in any other manner than to make it profitable during a few years. The depressed condition of the coal trade of Pennsylvania, in consequence of the repeated strikes of 1869, 1870, and 1871, had also given little encouragement to individuals to engage in coal mining, and those employers who had survived contests with their workmen had but little capital left with which to improve their collieries and open new mines for the future. It became, then, a matter of inevitable necessity for the company to follow the example of the large coal and railroad companies of the Wyoming district, and to become miners of coal upon their own estates. This policy has been steadily pursued for the last two years, during which a number of collieries, formerly worked by tenants, have been purchased. Works which have occupied the greater part of two years are now completed, and of 82 collieries now in operation upon the lands of the company 37 will be worked by the company itself, the others remaining in the hands of tenants until the expiration of their respective leases. Large retail yards in Philadelphia, and wharf and shipping facilities in New York and various ration of their respective leases. Large retail yards in Philadel phia, and wharf and shipping facilities in New York and various eastern ports, have been provided.

Among the most important new works commenced by the Phila-delphia and Reading Coal and Iron Company has been the sinking of two perpendicular shafts or pits in the vicinity of Pottsville, in order to reach and work the large white-ash coal veins of the Southern basin. This work has been prosecuted vigorously until a depth of 1128 ft. was reached by the deepest shaft, from which a bore-hole has been sunk into the Mammoth vein at a distance of bore-hole has been sunk into the ground. The shaft will be continued 1954 ft. from the surface of the ground. The shaft will be continued 1954 ft. from the surface of the ground. The shaft will be continued down to Primrose vein—a depth of 1569 ft. from the surface—from which point the Seven-feet vein and the Mammoth vein will be reached by a tunnel. The several veins of workable coal opened by these shafts are as follow:—Tracey vein, 9 ft. thick; Diamond vein, 4 ft. thick; Orchard vein, 6 ft. thick; Primrose vein, 12 ft. thick; Seven-feet vein, 11½ ft. thick; and Mammoth vein, 25 ft. thick. These veins make a total coal thickness of 64 ft., exclusive of smaller veins, and in addition to these veins there are coal strata underlying the Mammoth vein which can be reached in the future, if required, by an extension of the shafts. The extent of coal territory tributary veins make a total coal thickness of 64 ft., exclusive of smaller veins, and in addition to these veins there are coal strata underlying the Mammoth vein which can be reached in the future, if required, by an extension of the shafts. The extent of coal territory tributary to these shafts is so great that there can be but little doubt that at least 100,000,000 tons in the several veins already opened can be worked through them. When it is considered that the deposits of coal thus opened out extend through the entire length of the Southern coal field—principally underlying lands bought atexceedingly low prices, and hitherto considered by many to be comparatively valueless—and

when it is remembered that the deposits are within 100 miles of the water at Philadelphia, the importance of the "developments" made by the shafts can scarcely be over-estimated. Industry and capital combined can, under all the circumstances, scarcely fail to largely is crease the coal production of Pennsylvania during the next decade.

INDUSTRIAL PARTNERSHIPS IN MINES,

INDUSTRIAL PARTNERSHIPS IN MINES.

We are by no means surprised that the system initiated by the Messrs. Briggs, of the Whitwood and Methley Collieries, of giving the time it was introduced we stated that we did not believe the it would be found a panacea for all the complaints made by work men, no more than it would entirely do away with strikes. It was however, looked upon by many persons who take an active part the promotion of schemes for the benefit of the working man at the means by which the miner was to be elevated in the social scale, and placed in a position leading to comparative independence. Lord Elche and Mr. Hughles were in ecstasies over the schema and actually went down the mines in which the working collies was to be a partner. Now, however, the directors state that they "regret they can no longer recommend the continuance of the System of Industrial Partnerships, so far as respecting the payment of a bonus on wages to the employees."

Thus, an experience of about nine years has shown that the bonus system, as adopted by Messrs. Briggs, has been a thorough failur. It was in July, 1865, that the private partnership of the firm was converted into a joint-stock company of limited liability, by which it was agreed that when the profits, after a fair reservation for redemption of capital, exceeded 10 per cent. one-half of the excess was to be given by way of bonus to the workmen. It appeared that not more than 10 per cent. of the workmen became shareholders, many believing that the bonus would have the result of keeping the men from obtaining advances of wages when trade was in a very prosperous state. Matters went on very well for a time, and the Union did not interfere with the works; when, however, the Messrs. Briggs, in September last, gave notice of a reduction of wages, a great change took place in the spirit of the men who threw the bonus inducement to the winds, and became members of the West Yorkshire Miners' Association, stating in the clearest and most positive terms that they desired to

IFTON RHYN COLLIERIES, SHROPSHIRE.

The operations of sinking and boring which have been going on at these collieries for some time past are likely to be of such im-

at these collieries for some time past are likely to be of such importance to the country generally, as well as to the company in particular, that a few particulars concerning them may prove interesting to the readers of the Journal.

The company was registered towards the close of February, 1873, and its first operations were directed to the widening and deepening of shafts which had already been sunk to the "top coals." These "top coals" lie above the "great mass of red and grey marls and sandstones, locally known as the red ground, and which, covering the ordinary coal measures over a great part of the United Kingdom, as well as on the continent of Europe and in America, have hitherto been generally classed as Permian. Thin coals have been found near Manchester, in Nottinghamshire, in Germany, and in Nova Scotia, overlying this "red ground," but, as far as is known, they have not been worked anywhere except at lfton and in the neighbourhood, where one of them attains an aggregate thickness of 4 ft. 3 in., and is a coal of good quality for household use. Extensive workings have been opened out in this seam at Ifton Rhyn, the present output reaching nearly 300 tons per week, but the machingry and appliances have been erected with a view to an ultimate output of 300 tons per day.

The property leased by the company extends over an area of 2000.

of 300 tons per day.

The property leased by the company extends over an area of 2000 acres of coal land, which stretches from the River Dee, below Rusbon, to the Great Western Railway at Gobowen Junction. Along

bon, to the Great Western Railway at Gobowen Junction. Along the western margin of the property are the collieries of Black Park, Brynkinallt, Quinta, and Preesgwyn. The workings of three of these collieries touch the boundary of the Ifton Rhyn property, which, as will be inferred, lies to the deep and east of them. In order to reach the deeper coal seams worked at those collieries a pit (No. 3) was started in November, 1873. In November, 1875, this pit was sunk 176 yards: 25 yards of this depth was sunk through the superficial gravel, sand, and clay. Through these the pit was sunk to a diameter of 20 ft. The permanent pit, of a diameter of 15 ft., was then built up from the solid red marl, and the spece between puddled with clay. The effect of this has been to make the subsequent sinking perfectly dry. The pit was then sunk with its permanent diameter of 15 ft. to the depth stated above. A succession of red and grey marls and shales, with occasional rocks and streaks of coal, and a series of green rocks, similar to those found on the eastern outcrop of the coal basin in South Staffordshire were passed through. Pending the erection of a more powerful engine, on the eastern outcrop of the coal basin in South Staffordshire were passed through. Pending the erection of a more powerful engine, it was decided to bore from the above depth, and the rods passed through grey and green rocks and red shales, with two thin coal seams of the respective thicknesses of 1 ft. and 6 in., until at a depth of 252 yards a coal seam ranging about 2 ft. 3 in. in thickness was reached. Below this three or four thin coals have been passed through, and it is also believed the thin limestones, known to geologists as the "Spirorbis limestone." If this be so, it fixes the present position of the boring above the Cefn freestone rock, under which lie the Ruabon coals. There is, however, over a large part of Shropshire, as well as in the Ruabon district, a "four-feet" coal seam between the Spirorbis limestone and the Cefn rock. Whether the present hand-boring machinery will be able to reach this seam is uncertain, but sufficient has been done to prove the continuation of the lower coal measures eastward under the Ifton property. It is intended to give the Not last to which proves in the remandate in the term and the continuation of the lower coal measures eastward under the Ifton property. is intended to sink the No. 1 pit, to which powerful permanent engines have been attached, simultaneously with No. 3, to the lower

These pits are placed near the eastern boundary of the property, where the coal lies deepest, and they will command unbroken stretches of coal to the rise of them. Associated with them, and with the No. 2 pit, through which the upper coals are worked, will be brick machinery and all the other colliery works. At the Gobover of the property two pits have been started. wen or southern corner of the property two pits have been started, and the plant laid out for sinking to the lower coals, which will, in all probability, be reached at a much less depth than in the Ifton portion of the royalty. Various other collieries are projected in the eastern portion of the coal field, and the recent discoveries at Ifton must exercise a very favourable influence on these

COAL AND IRON IN THE UNITED STATES.—The Buck Mountain

ironworks are in full blast for the first time for eight months. Taking advantage of a great reduction in the price of steel rails the Boston and Albany Railroad Company laid in the year ending Sept. 30, 1874, about 13,000 tons in its main track. It is calculated that 10,000 tons more will give the company steel in both main tracks from Boston to Albany.

THE UNITED STATES TIN TRADE,

The subjoined statistics, showing the stocks and consumption of tin in the United States during the past seven years, with the highest, in the United States during the past seven years, with the highest, lowest, and average prices in each year, compiled by Messrs. White lowest, and Askell, of New York, will be of general interest to the readers and Haskell, of New York, will be of general interest to the readers of the Mining Journal:—

INPORTATIONS.

| of the present | | IN | (PORT | AT | IONS. | | | | | | | | |
|-----------------------------------------------------|-------|-----|-------|-----|-------|-----|---------------|------|-------|-----|------|-----|---------------|
| 100 | 1874. | | | | 4000 | | 1871, 4025 | | MERCA | | 004# | | 1868. 3410 |
| StraitsTons | 1472 | | 1000 | *** | 750 | | .800 | | 804 | *** | 500 | *** | 390 |
| L and F. Refined | 100 | *** | 95 | *** | 125 | *** | 141 | 1944 | 237 | *** | 195 | *** | 218 |
| THE CO. | 4612 | | 4495 | | 5238 | *** | 8006 | ļ., | 3929 | *** | 3510 | *** | 4018 |
| Stocks on hand with im- porters and speculators, | 617 | *** | 435 | *** | 241 | | 251 | | 440 | *** | 390 | *** | 309 |
| | | *** | 4930 | *** | 5479 | | 5317 | 4 | 4369 | *** | 3900 | *** | 4327 |
| Ditto disto, Dec. 31 | 800 | *** | 017 | *** | 400 | *** | - | 1 | 201 | *** | - | *** | - |
| - montion | 4629 | *** | 4313 | *** | 5044 | *** | 5076 | *** | 4118 | | 3460 | *** | 3937 |
| Marce OF DIRALIS. | | | - 64 | | 00 | | 001/ | | 001/ | | DOT/ | | 047/ |
| | | | 2734 | | 31 | *** | 38 | | 5314 | *** | 3016 | *** | 281/2 |
| Lowest | 21 | | 27 | *** | 29 | *** | 32 | *** | 301/2 | 900 | 27% | *** | 223/4 |
| Lowest | 28 | *** | 331/4 | *** | 421/2 | *** | 38 38 | *** | 38 | 111 | 314 | *** | 2834 |
| 1 warrage | 20% | *** | 0079 | | | | | | 20073 | 100 | 74 | *** | . /3 |

MINING IN INDIA.—We are sorry to hear that the mines at Jubathoo, in the Punjaub, India, have stopped work, at least for the present, and the Punjaub Government, it appears, have stopped other mines, and appear desirous to prevent the working of any mines or other industry except those over which they can hold the most despotic control and a large portion of the profits. Not content with a monopoly of all the salt found "between the Indus and the Beas," they have taxed the salt in the Rajah of Mundi's estate, and have given notice they will tax it beyond the Beas, that is if they permit it to be worked at all. Long since they refused to permit any companies to start irrigation works, which they insisted on muddling themselves, and every attempt made to create a new industry or trade is at once trampled on, appropriated, or destroyed by the present despotic Government. Sir Douglas Forsyth has made hitter enemies of the entire Punjaub Government by his endeavour burge trade to the north of the Punjaub, but as yet no European has succeeded even in tea planting, except two or three retired officers, military and civil, near Kangra, and General Sir Arthur Cunynghame's tea estate in Kulu.

Successful, Coal, Company.—A. Knowles and Sons (Limited),

Successful Coal Company.—A. Knowles and Sons (Limited), cal proprietors, Lancashire, have issued their first annual report. With a subscribed capital of 1½ million sterling. This is, perhaps, the largest coal company in England. The profits for the past year have been 136,590l., or 37½ per cent. on the paid-up capital. After paying 12½ per cent., the highest dividend authorised by the Articles till the reserve fund amounts to one-fourth of the paid-up capital, the sum of 91,248l. will be carried to the reserve fund.

Coal on Railways.—In the half-year ending Dec. 31, 1874, the cost of the coal and coke consumed in the locomotive department of the North Staffordshire Railway was 16,2134, as compared with 20,8401 in the corresponding period of 1873. In the half-year ending Dec. 31, 1874, the cost of the coal and coke consumed in the locomotive department of the North-Eastern Railway was 186,4824, as compared with 250,7171 in the corresponding period of 1873. In the half-year ending Dec. 31, 1874, the cost of the coal and coke consumed in the locomotive department of the Midland Railway was 189,5994, as compared with 219,9621 in the corresponding period of 1873. Great relief has thus been obtained in the matter of coal by the railway interest; the savings realised under this head have, howers, been neutralised to a great extent by the increased cost of labour.

ever, been neutralised to a great extent by the increased cost of labour.

Sale of Coal by Weight—Artificial Fuel.—The Weights and Measures Amendment Act, 1875, recently brought into the House of Commons, is intended to render the sale of coal, slack, culm, &c., otherwise than by weight absolutely illegal, the penalty for every such sale being fixed at not more than 5l.; the single working clause of which the Bill consists enacts that "From and after the — day of — One thousand eight hundred and seventy-five, no coals, slack, culm, cannel, cinders, or coke of any description shall be sold by any person by way of retail other than by weight, such weight being marked legibly upon the cart, sack, bag, or any description of article containing the same, and in no less a quantity than one stone of fourteen pounds, and every person selling by way of retail other than by weight as aforesaid shall be liable, on conviction, to a penalty not exceeding five pounds for every such sale." It is a curious circumstance that the Act which this Bill is intended to amend has been habitually evaded, because the enactment that "every person who should from and after the said date sell any coal, slack, culm, or cannel of every description by measure, and not by weight, should, on conviction, be liable to a penalty not exceeding forty shillings" does not touch those who sell neither by measure nor by weight. The new measure will be particularly valuable in powenting the sale of artificial or compressed fuel to the poor unless the lumps or bricks be of the full weight of 14 lbs. each.

MINING IN NORTH DEVON.—Notwithstanding the great depres-

MINING IN NORTH DEVON.—Notwithstanding the great depression in West Country mining operations through the lock-out of the colliers of South Wales, there is no lack of earnest preparations for opening several red hematite iron and manganese setts in the neighbourhood of Barnstaple. Some Scotch speculators have secured a large tract of ore-bearing ground near the Hifracombe Railway, and some of the appringers of manganese taken from the sett have asserted sings fraction ore-bearing ground near the intracombe halfway, and some of the specimens of manganese taken from the sett have assayed more than 60 per cent, of metallic matter. Upon Exmoor several red hematite iron lodes have been opened, and it is believed there will be a large amount of work done there as soon as the trade looks more healthy.

SUB-WEALDEN EXPLORATION.—Mr. Willett, the honorary secretary, reports that the old bore-hole has been abandoned, and the work recommenced at a spot a short distance from the old site, whither the machinery has been shifted. The exploration was resewed on the 11th inst., and a depth of 40 ft. was attained in the first five days. The honorary secretary says the new boring is over 6 in. in diameter, bringing up splendid solid cores of over 18 in. in length and 44 in. in diameter. An opinion having been expressed om, in diameter, bringing up splendid solid cores of over 18 in. in length and 4½ in. in diameter. An opinion having been expressed that in selecting a new site the committee should have gone more to the north-east, Mr. Willett gives the reasons which influenced them in deciding to recommence the work only a short distance from the first working. He says that besides the loss of time and expense of removal to a more distant spot, the contractors, knowing what they had to contend with, have undertaken positively to bore

and line 1000 ft. for 600l.—for 200l. more than the committee had consented to pay for enlarging and lining the old bore. It has been proved that the strata are as nearly as possible perfectly horizontal, thereby securing the maximum of depth at the minimum of penetration. This desision has also been followed by a large accession of support, including that of the Earl of Chichester, Lord-Lieutenant of the county. The honorary secretary had himself given another 50l. towards the work, and a like sum has been forwarded by Mr. C. Cochrane. The 100l. voted by the British Association has been received.

Guncotton.—The Patent-Safety Guncotton Company (Limited) applied to the Stowmarket magistrates, on Monday, for a licerce for their works for the manufacture of guncotton in a wet form. The application was supported by Mr. Poland, barrister, and was opposed by Mr. Salmon, sclicitor, on behalf of certain persons having land adjoining the works. Mr. G. P. Bidder was called as a witness on behalf of the company, and expressed his opinion that the manufacture and carriage of wet guncotton was perfectly safe. Wet guncotton could not possibly be exploded accidentally, there must be a special appliance for the purpose. Even as regards dry guncotton, he thought that the Stowmarket explosion of 1871 would not have occurred if the cotton had not been feloniously dealt with. Mr. Eustace Prentice, the managing director of the company, stated that proportion of moisture in the cotton when it left the premises was 25 per cent. The magistrates eventually granted the licence, subject to such conditions as should be approved or required by the Secretary of State for the Home Department.

REPORT FROM CORNWALL.

REPORT FROM CORNWALL.

Feb. 18.—The falls in the tin standard have unmistakeably caused considerable depression of feeling in the mining districts of the county, though no one doubts that it is only temporary. Still, the county has suffered so severely in its mining interests during the last few years that there is apparently less elasticity and less readiness to recover than used to be the case. This is not unnatural; indeed, it is not very easy to see how't could be otherwise. Repeated blows must have their effect, and there can be no doubt that the losses of mining adventurers have been severe in the county as well as out of it. "A stern chase is a long chase," and, though one's confidence in the ultimate prosperity of local mining enterprise does not fail, yet it is weary waiting.

We are glad to learn that the mines generally have pretty fair stocks of coal. The price has advanced, in consequence of the lockout, some 3s. or so per ton, and it may be hoped that this is about the worst. It is really remarkable, seeing how bad the coal usually supplied to Cornwall for mining purposes is, and how large must be the profits of the coal merchants, that more mines do not import their own coal, and, moreover, by contracts render themselves—to a certain extent, at least—independent of the fluctuations of the markets. The more remarkable is it seeing that the coal charges form such a very heavy item in the expenditure of all our chief mines.

There is good reason to hope that the action taken by the adventurers in Wheal Agar in introducing boring machines well be not provided in the service of these charges can be brought against the Darlington oborer, and, as it will have a fair trial at Wheal Agar, we may hope that it will remove the reproach under which Cornish mining has laboured of late of being unable to adopt appliances which are in use in almost every other part of the world. A good deal of interest has been manifested in the Tangye borer, described in last week's Journal, with its clever adaptation to the me

REPORT FROM SCOTLAND.

Feb. 17.—The Warrant Market continued dull all last week, and closed on Friday at 73s. On Monday there was more animation, and a good business was done from 73s. to 73s. 9d. Yesterday the tone was easier, and a few lots changed hands at 73s. 3d. cash, buyers remaining at that price at the close. To-day a limited business was done at 73s. 6d., closing with sellers over, and buyers offering 73s. 3d. There is little or no change to report in the value of makers' iron:—No. 3.

| 9 | and to he had been been been been been been been bee | Investors is likely to continue to be attracted to the shares of a com- |
|------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| n | No. 1. No. 3. G.m.b. at Glasgow (deliverable alongside) 74s. 6d75s. 6d. 73s74s. | pany showing such progress and prospects as the Javali, and in view |
| ISI. | Gartsherrie ditto ditto | of this I have given this week full particulars in regard to the com- |
| 10 | Coltness ditto ditto 90 0 77 0 | pany, which will be found after my report of Wednesday's business, |
| | Bummerlee ditto ditto 87 6 75 0 | In oil shares, Young's Paraffin have again been in good demand, and |
| | Langloan, ditto ditto 90 0 75 0 | |
| 3- | Carnbroe ditto ditto 84 6 75 0 | have advanced about 11. per share; others are unchanged. In mis- |
| 8 | Monkland ditto ditto 75 0 73 0 | cellaneous, Scottish Wagon shares are the only description that have |
| T | Clyde ditto ditto 75 6 73 6 | been dealt in; the original shares are unchanged, but the new issue |
| - | Govan, at Broomielaw, ex store, ditto 75 0 73 0 | is higher. Among shares not usually quoted North Hendre Lead |
| T | Calder, at Port Dundas ditto 90 0 75 0 | is higher. Among shares not usuarly quoted North Hendre Lead |
| a | Glengarnock, at Ardrossan ditto 85 6 76 0 | Mine is 2 to 21, and Richmond Consols have changed hands at 73. |
| d | Eglinton ditto ditto | A detailed list of the several days' business follows:- |
| d | Dalmellington ditto ditto 75 0 73 0 | On Thursday last a good business was done, attention, however, |
| 1 | Carron, at Grangemouth, selected, ditto 85 0 | being chiefly directed to Merry and Cuninghame. Canadian Copper Pyrites done |
| 9 | Shotts, at Leith ditto 87 6 77 0 | at 11/2, closing 30s. to 31s. Cairntable, 67/5 to 65/6. Ebbw Vale firm at 20 to 201/4. |
| 0 | Kinneil, at Boness ditto 82 6 73 0 | Emma done at 36s., closing 35s. to 38s. Port Washington (all paid) done at 4%. |
| 8 | Bar iron £ 9 10 — | closing 4% to 5. Javali easier on realisations, closing 7s. 6d. to 8s. 6d. Lochors |
| | Nail rods 9 10 — | and Capledrae, 7% to 7%. Marbella, 106s. to 107s. Merry and Cuninghame shares |
| | Week ending Feb. 13, 1875 | opened at 57s., but on sales continuing to be pressed gradually declined, closing |
| - | Week ending Feb. 14, 1874 | 53s. to 53s. 6d. Monkland ordinary done at 61s. and 62s., closing at these prices. |
| - | 17 CON CHAINE & CO. 14, 1014 | Nant-y-Glo and Blaina preferred rose 2, at 41 to 43. Omoa and Cleland done at |
| 0 | Increase 654 | 21/2. Tharsis dull, done at 221/2 and 221/3, closing about these prices. Young's |
| в, | Total increase for 1875 | Paraffin shares again good, done at 5%, closing 5% to 5%. Scottish Wagon original |
| 3- | Imports of Middlesborough pig-iron into Grangemouth:- | shares at 11 11-16ths to 11 13 16ths, and new shares changed hands at 26s. Yorke |
| e | For the week ending Feb. 13, 1875 | Peninsula ordinary about 5s. to 6s. |
| 190 | For the week ending Feb. 14, 1874 3,180 | On Friday a good business was done. Bolckow, Vaughan, A, done |
| - | | at 55%, closing 55 to 55%. Cairntable, 6% to 6%. Canadian Copper Pyrites, 30s. 6d |
| n | Increase | to 31s. 6d. Ebbw Vale done at 201/s, closing 20 to 201/s. Emma done at 11/4, closing |
| d | Total increase for 1875 | 34s. 6d. to 35s. 6d. Glasgow Caradon, 25s. to 25s. 6d.; these shares are now quoted |
| 9 | At the close of last week the demand for g.m.b. moderated, and | ex div. Javali remain at 7s. 6d. to 8s. 6d., the enquiry for them seeming to have lessened. Lochore and Capledrae done at 734, closing 756 to 756. Marbella opened |
| d | this week the market opened with a scarcity of warrants, and | at 107s., but gradually declined to 5¼, closing 105s. to 108s. Merry and Cuning- |
| 96 | prices advanced, with makers' iron also firmer. Yesterday almost | hame were again largely dealt in, and continue to be pressed for sale; the opening |
| d | | price was 53s, 6d., but transactions took place down to 50s., closing 49s. 6d. to 50s. 6d. |
| or | the advance was the simple result of speculation. The shipments | I MORKIAND OF CHIRARY OPERED At Ols., Out Improved to ols., Ouyers, Closing has again, |
| 67 | continue low considering the price and unfertunately the advises | at 60s, to 61s. Omoa and Cleland done at 50s., closing 50s. to 51s. Panulcillo, % to 114. Tharsis were more dealt in; opened at 23%, but steadily advanced, closing |
| | constitute for considering the price, and, unfortunately, the survices | 173. Illaria were more dente in, opened as #273, one stearing servances, cosme |
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from the Continent are becoming less satisfactory as the season advances. There is an increase of shipments on the year to date; but that the increase is not much greater is regarded as proving the want of funds in the hands of foreign correspondents, as mary works abroad are waiting the accession of iron for their completion. The moderate price of the article, and its known want for many undertakings, may yet give an impetus to shipments which is not presently apparent. The malleable iron trade, so far as the larger plate and rolling mills are concerned, is still confined within small dimensions; the smaller makers sliding prices up and down in order to secure them as much work as will keep them from shutting. The forges and machine shops are also somewhat quieter, pipefounders being the only exception. It was expected that works here were likely to book the large orders for water mains which has fallen to the Staveley Iron Company, Sheffield—their rate being reported as under 71. per ton. Prices are irregular and drooping.

At the annual festival of the managers, firemen, &c., connected with the Mossend Ironworks—Mr. Jas. Neilson in the chair—several excellent remarks were called forth. The Chairman proposed the "Managers of the Mossend Ironworks," coupled with the name of Mr. David Scott, one of the oldest servants of the company. He recommended that the men at the heads of the various department. He assured them that the preparation and study of scientific papers would be more beneficial to them than the drinking of toasts. Mr. David Scott, and others, suitably replied.

The strike of engineers on the Clyde has extended to Glasgow. This time the offence consists of the employers changing the hours somewhat, and the men think this a matter which cannot be tolerated, even though it does not add a minute per week to their present hours of labour. To-morrow night, at the Engineers' Association, a paper will be read on "Light Single-Line Railways."

For Coals there is an extra enquiry from Irish ports, which had

to come.

The attempt to carry Scotch coals to London is not likely to be realised at this time, as the present attempts have fallen through, the carrying charges consuming everything else.

In Fifeshire contracts for storing and summer delivery are being entered into under present prices; but as the strike in Wales has also affected the collieries on the East Coast not much more will be done in this way till this matter is settled one way or each to.

done in this way till this matter is settled one way or another. The deliveries of gas coal continue on a large scale, and the business seems on the increase.

Messrs. Thornton and Orr, the liquidators of the Niddrie Coal Com-

Messrs. Thornton and Orr, the liquidators of the Niddrie Coal Company (Limited) have issued a circular to the shareholders, stating that they have made over to the Benhar Company all the property, &c., of the Niddrie for 62,000. (equal to the paid-up capital of the company), and agreed to accept from the Benhar Company in payment 31,000 new shares of 10t. each, 2t. paid, to be issued to the shareholders of the Niddrie in exchange.

The mining operations which have been carried on at Gourock for copper ore by Messrs. Henderson and Co. have been entirely suspended, the project not proving successful. The work was commenced about five years since, and the outlay must have been considerable. Mining on a small scale had been carried on at the same place more than a hundred years ago, but whether successful or not cannot be ascertained. The plant, consisting of engines, boilers, &c., is to be removed to Irvine.

not cannot be ascertained. The plant, consisting of engines, boilers, &c., is to be removed to Irvine.

UNDERGROUND TEMPERATURE.—At the Geological Society of Glasgow annual meeting the President (Sir William Thomson) delivered an interesting address, which was greatly appreciated by the members. The subject dealt with was "underground Temperature." Sir William explained at the outset that the mathematical theory of underground temperature involved phenomena which might be divided into two classes—periodic and non-periodic. The periodic phenomena occurred over and over again with perfect regularity in successively equal intervals of time; the uon periodic enight be approximately periodic, or irregularly periodic, without falfilling accurately that strict definition. But, on the other hand, the action which had no periodic character whatever might be irregular, or there might be a gradual secular variation. There might be three classes of phenomena—secular variation, irregular variation, and periodical variation. He then described the mathematical theory of Fourier, as applied to the periodio, observing, in passing, that it was equally convenient for dealing with all the three classes. That theory was one of the most beautiful pieces of application to the mathematical instrument they had in the whole history of science. It had constituted a new branch of mathematics, and Fourier, Sir William mentioned, invented it for the purpose of analysing the phenomena of the conduction of heat through solids. He spoke of the investigations of Peelet, Armstrong, Quetlet, Tair, and Forbes into the conductivity of bodies, and he exhibited a diagram showing the results obtained by Forbes from thermometers placed at depths of 3, 6, 12, and 24 ft. below the surface in Craigleith Quarry, the Experimental Gardens, and the Calton Hill, Edinburgh. The result of these observations, which Forbes commenced and Sir William continued, showed that the variations were greater near the surface, that a higher temperature was generally indicate

THE SCOTCH MINING SHARE MARKET-WEEKLY REPORT AND LIST OF PRICES.

THE SCOTCH MINING SHARE MARKET—WEEKLY
REPORT AND LIST OF PRICES.

During the past week a large business has been done. A rise of \$\frac{1}{2}\$ per cent. has taken place in the Bank rate to-day (now \$\frac{3}{4}\$), but this is not likely to affect business. In iron and coal shares the principal changes are a rise of \$2\$ in Nant-y-Glo and Blaina preferred, while Fife Coal shares have declined \$1\frac{1}{2}\$, and Merry and Cuninghame \$\frac{3}{3}\$; this last attracted particular attention during the week. In copper, \$\frac{1}{2}\$c., shares there have been no particular movements; attention may be directed to the favourable report just received by the Yorke Peninsula Mining Company (Limited) from their committee of inspection at Adelaide. In Americans, Flagstaff shares are higher, while Colorado Terrible have declined. Javali shares also were at one time lower, and rather dull on the demand lessening, but they have again shown signs of coming into favour on the very satisfactory report from the mine just issued, and they have now a decidedly upward tendency; this report states that the mill had worked \$2\frac{1}{2}\$ days, crushing \$100 tons of quartz, yielding \$22\frac{1}{2}\$ ozs. of gold, valued at \$1370\tau\$. The expenses for the month were 750\tau\$, including \$12\tau\$. on capital account, thus leaving a profit on the month's working of 762\tau\$. The figures at this time last year being—1020 tons, yielding \$25 ozs., with a profit of only \$645\$; this shows how greatly the state of affairs has improved with the Javali Company. The attention of investors is likely to continue to be attracted to the shares of a company showing such progress and prospects as the Javali, and in view of this I have given this week full particulars in regard to the company, which will be found after my report of Wednesday's business. In oil shares, Young's Paraffin have again been in good demand, and have advanced about \$1\tau\$ per share; others are unchanged. In miscellaneous, Scottish Wagon shares are unchanged, but the new issue is hi been dealt in; the original shares are unchanged, but the new issue is higher. Among shares not usually quoted North Hendre Lead Mine is 2 to 24, and Richmond Consols have changed hands at 73.

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22% to 23. Scottish Wagon changed hands at 11%. Yorke Peninsula ordinary firmer, at 5s. 6d. to 6s. 6d.

22% to 23. Scottish Wagon changed hands at 11½. Yorke Peninsula ordinary firmer, at 5a. 6d. to 5a. 6d. On Saturdays a good business was again done. Bolckow, Vaughan, A. done at 55½. Cairatable, 5½ to 5½. Canadian Copper Pyrites done at 31a., elosing 25a. 6d. to 31a. 6d. Colorado Ferrible shares are now quoted ex div., at 3½ to 3½. Ebbw 12a. 6d., Colorado Ferrible shares are now quoted ex div., at 3½ to 3½. Ebbw 12a. 6d., Colorado Ferrible shares are now quoted ex div., at 3½ to 3½. Ebbw 12a. 6d., Colorado Ferrible shares are now quoted ex div., at 12a. 6d. Marbella opened at 105a. but gradually declined to 105a. 6d. 105a. 6d. Marbella opened at 105a. but gradually declined to 105a. 6d. iolosing 25a. but declined to 105a. 6d. 1

long, and then a rapid rise may be looked for in the ordinary shares are to be preferred, as the chances are that anyone purchasing them at present prices will al least dust in the chances are that anyone purchasing them at present prices will al least done intended preference are the best, as, in didition to that rate of interest (arrears accumulative), they are entitled to share with the ordinary shares in all dividends above that amount.

On Worlnesday a fair business was done. Bonhar done at 142, Bolickow, Yanghan "A" done at 55%. Calmitable, 6½ to 5½, Ebbw Vale done at 3. Javall again better at 8s. 6s. to 9s. 6d.; a heavier rise might have been expected than has taken place in these shares, owing to the very favourable report, but the reason is that it will not be generally known yet. Fort Washington ail branch of the company of

benture and other advances; leaving 71201. as the sum available for distribution to the shareholders, or equal to a dividend of 7 per cent. per annum, with a balance over to begin with. This is, of course, no great return from a gold mine, especially to those who have held shares from the commencement; but it is a fair thing to begin with, and I would point out that it would be about 30 per cent. to a purchaser at anything about 10s. For the 2s. share, not taking into account the rise that would doubtless take place in the price of the shares. It is proper to state that the return on which these calculations are based is a more favourable one than has been usual with the Javali for some time past; but there does not appear any reason in the meantime why it should not be maintained, or even exceeded. Subjoined will be found the latest price:—

COAL, IRON, STEEL.

| mour | | Amour | | Name. | Latest |
|------|------|--------|------|-------------------------------------------------------|---------------------------|
| shar | | paid-u | p. | Arniston Coal (Limited) | price. |
| £10 | *** | | *** | Bonhar Coal (Limited) | 14% |
| 10 | 000 | | | Bolckow, Vaughan, and Co. (Limited) | |
| 100 | | | *** | Bolckow, Vaugnan, and Co. (Limited) | 5534 |
| 10 | 0.00 | | *** | Cairntable Gas Coal (Limited) | 61/2 |
| . 10 | 0.01 | 10 | | Chillington Iron (Limited) | 6 |
| 32 | *** | 29 | *** | Ebbw Vale Steel, Iron, and Coal (Limited) | 201/8 |
| 10 | *** | 4 | *** | Fife Coal (Limited) | 4% |
| 10 | *** | 8 | *** | Glasgow Port Washington Iron and Coal (Limited). | 4 |
| 10 | 000 | 10 | | Ditto All paid | 476 |
| 10 | *** | 10 | *** | Lochore and Capledrae (Limited) | 7% |
| 10 | *** | 10 | | Marbella Iron Ore (Limited) | 734 536 |
| 10 | | 33 | 4 | Merry and Cuninghame (Limited) | 438. |
| 10 | | | *** | Ditto All paid | 914 |
| 10 | *** | 10 | *** | Monkland Iron and Coal (Limited) | 638. |
| 10 | *** | 10 | | Ditto 7 per cent. Guaranteed Preference. | 736 |
| 100 | | 100 | | Nant-y-Glo and Blains Ironworks pref. (Limited) | 42 |
| 10 | *** | 2 | *** | Niddrie Coal (Limited) | 67s. |
| 10 | *** | 4 | | Omoa and Cleland Iron and Coal (Limited) | 51s. |
| 1 | *** | ī | | Scottish Australian Mining (Limited) | 136 |
| i | *** | 5s. | | Ditto New | 6s. 3d. |
| 50 | | 50 | | Shotts Iron | 77 |
| 10 | *** | 4 | *** | Ditto New, issued at 2½ premium | 6 |
| | *** | - | | CORDED TEAD SHIPHIP MIN | - |
| | | _ | | COPPER, LEAD, SULPHUR, TIN. | *** |
| 10 | *** | 7 | | Canadian Copper Pyrites (Limited) | 636 |
| 10 | 900 | 10 | | Ditto All paid | 056 |
| 10 | *** | 7 | *** | Cape Copper (Limited) | 3134 |
| 1 | *** | 1 | | Cwm Bychan Silver-Lead (Limited) | 36 |
| 1 | *** | 1 | | Cwm Lery Lead (Limited) | - 36 |
| - | *** | 5 | | Drake Walls | 6 |
| 2 | *** | 2 | | Dunsley Wheal Phœnix Tin (Limited) | * |
| 1 | | 1 | *** | Glasgow Caradon Copper Mining (Limited) | 25s. 6d. |
| 1 | | 15s. | | Ditto New | 17s. 6d. |
| - | | 53 | 4 | Gunnislake (Clitters) | 15/8 |
| 10 | *** | 9 | | Huntington Copper and Sulphur (Limited) | 214 |
| 1 | | 1 | *** | Islay Lead (Limited) | 15% 21/4 1/4 1/4 |
| 258. | *** | 23s. | *** | Kapunda Mining (Limited) | 34 |
| 4 | *** | 4 | | Papulcillo Copper Mining (Limited) | 1 |
| 10 | | 10 | *** | Rio Tinto (Limited) Russian Copper Mining (Limited) | 93/4 |
| 10 | *** | 10 | *** | Russian Copper Mining (Limited) | 23/4 |
| - | *** | 6 | *** | South Roskear | 5 |
| 10 | *** | 10 | *** | Tharsis Copper and Sulphur (Limited) | 223/ |
| 10 | | 7 | | Ditto New | 1534 |
| 10 | *** | 898. | *** | West Maria and Fortescue | 34 |
| 1 | *** | 1 | | Yorke Peninsula Mining (Limited) | 68. |
| î | *** | 58. | *** | Ditto 15 per cent. Guaranteed Preference | * |
| | 000 | 68. | *** | | 74 |
| | | | | GOLD, SILVER. | |
| .5 | | 5 | | Colorado Terrible Mining (Limited) | 31/4 |
| 20 | *** | 20 | *** | Emma Silver Mining (Limited) | 13/4 |
| 10 | *** | 10 | *** | Flagstaff Silver Mining (Limited) | 3 |
| 2 | *** | 2 | *** | Javali Gold Mine (Limited) | 98. |
| 5 | | 5 | | Last Chance Silver Mining (Limited) | 1 |
| | | | | OIL. | |
| 10 | | 7 | | Dalmeny Oil (Limited) | 111a 64 |
| 5 | *** | 5 | 440 | Midlothian Mineral Oil (Limited) | 3/ |
| | *** | 8 | *** | Uphall Mineral Oil (Limited) | 34 |
| 10 | | | | West Colder Oil (Limited) | 21/ |
| 10 | *** | 10 | , | West Calder Oil (Limited) | 21/4 |
| 10 | *** | 85 | 3 | | 614 |
| | | | | MISCELLANEOUS. | |
| 10 | *** | 10 | *** | Conglog Slate and Slab (Limited) | 1034 |
| 10 | *** | 9 | | Highland Peat Fuel (Limited) | 7 |
| 80 | *** | 25 | *** | London & Glasgow Engineering & Iron Shipbuilding | 235/4 |
| 1 | *** | 1 | | North Cornwall Kaolin (Limited) | 1 |
| 20 | *** | 91 | 6 | Peruvian Nitrate (Limited) | 7 |
| 10 | *** | 10 | **** | Scottish Wagon Company (Limited) | 113/ |
| 10 | *** | 1 | *** | Ditto New | 26s, 6d. |
| | *** | Last | day | for this account Feb. 23; settling day, Feb. 26. | |
| Mar | | | | | s can be |
| MOTI | S | Tue ap | ove | list of mines and auxiliary associations is as full a | e cun ne |

NOTE.—The above list of mines and auxiliary associations is as full as can lascertained, Scotch companies only being inserted, or those in which Scotch i vestors are interested. In the event of any being omitted, and parties desiring quotation for them and such information as can be ascertained from time to tin to be inserted in this list, they will be good enough to communicate the name the company with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker. Post Office Buildings, Stirling, Feb. 18.

REPORT FROM THE FOREST OF DEAN.

Feb. 17.—It will be some time ere the effects of the late strike are effaced from this district, or the memories of painful experiences realised during its progress. The complaints of heads of families as to the difficulty of recovering themselves from the involved conditions which the strike left them in, and the dissonant mutterings of tradesmen with respect to its disastrous effect upon business, reducing their "takings" to sums insufficient to pay even assistants, and telling, in an evil sense, how those who conduct business establishments have, many of them, suffered to the extent of hundreds of pounds, even in cases of what would be accounted comparatively small businesses. The ill effects of strikes are painful, mischievous, and extensive, resulting in mercantile confusion and disorder, by interrupting disastrously ordinary trade, and extending more or small businesses. The ill effects of strikes are painful, mischievous, and extensive, resulting in mercantile confusion and disorder, by interrupting disastrously ordinary trade, and extending more or less through all the ramifications of society, as well as greatly damaging railway business, and trade on the sea, the innocent suffering with the guilty, that surely it is high time for the Legislature to devise some well-considered law, with a view to check, if not fully to put an end to them. This surely might be effected by the introduction of a few simple but compulsory regulations, such as compelling colliery proprietors to arrange the rate of wages twice a year only—spring and fall; three months' notice of all alterations to be compulsory on either side—i.e., either by the employers or the employed. And with regard to iron mines and all other minerals (excepting coal), that any change of wages should not be more frequent than once a quarter, three months being also compulsory on either side. And in cases of stoppage of works for the purpose of winding-up the affairs of a company or firm three months' notice, or six weeks' wages down, should also be made compulsory by law, so as to give workmen a chance of family provision by seeking employment elsewhere. But in cases of dispute where firms and their workmen cannot amicably settle their differences compulsory arbitration should be available. But with a view to give fair play to employers, and to encourage the investment of capital, it should be an instruction for the arbitrators to secure not less than 10 per cent, on the money invested in the mine or works, but to preventall collusion and bogus artifices on either side, the Court of Arbitration should be an open one, with power to examine books and call witnesses, so that clear data may be obtained for the arbitrators to proceed upon. But should the award not prove satisfactory to either side the capitalists should be at liberty to close their works by givnesses, so that he was a may be considered upon. But should be award not prove satisfactory to either side the capitalists should be at liberty to close their works by giving six months' notice of stoppage, or two full months' pay down, and that the men should be able to put an end to the arbitrated wage by giving six months' notice of such intention to their employers. Penalties of sufficient amount should be attached to all breaches of such a law, both on the side of capital and labour, as should prove deterrent to would-be transgressors. With such a law, impartially, promptly, and energetically administered, we think that there would be a reasonable prospect of ridding the country of the curse of strikes. At all events, we should like to see such a law of Dean, as we conceive that it enforced in the royal Forest work an immense amount of good, but far better still would it be to apply such a law to the whole of the United Kingdom. Indeed, if enacted at all, it must have a more extended application than the limited area of Dean Forest. But surely the general well-being of the country, and the necessities of a wise and good administration of home government requires that the subject should be taken up by the Legislature without delay, as the interests of the general public should not be sacrificed to a mere section of the community

Our anxiety to see mining and trade generally in a more settled and regularly prosperous state must be our apology for going beyond the ordinary bounds of a local report, because we feel that unless something be done in the direction indicated the country will be a something be done in the direction indicated the country will be a something be done in the direction indicated the country will be a something be done in the direction indicated the country will be a something be done in the direction indicated the country will be a something be done in the direction indicated the country will be a something the solution of the source of the s less something be done in the direction indicated the country will periodically and largely suffer by the recurrence of labour and wage disputes, and forced interruptions of commerce, but which, by wise legislative enactments, might be, if not entirely stopped, very greatly moderated and checked.

The Coal Trade is fair, prices to merchants being much the same, but the local country trade has a downward tendency as to prices, to the extent of 3s. per ton, but the demand is very good. Messrs.

Crawshay and Sons, who gave notice of a reduction of 5 per cents. Lightmoor Colliery, withdrew the notice towards the end of a week, but substituted more than an equivalent in its stend of a coal-cutters should henceforth supply 22 cwts, to the ton, in plan of 21 cwts, as previously, which most of the colliers submitted it although a few companies are reported to have left the pit rate than adopt the exaction. The plea for this change of tonnage is than adopt the exaction. The plea for this coal, clean coal should sent than adopt the exaction. The pleas for this coal, clean coal should sent up; but the change seems to imply that the extra hundred weight will condone the alleged deficiency, or the argument weight will condone the alleged deficiency, or the argument weight will condone the alleged deficiency, or the argument weight will condone the since work. Soon after the formational for the forest Union, and the rise in wages, this firm, which owns large number of workmen's cottages, raised the rents some 25 per cent, but the men allege that, since wages have considerably gon down again, no ababatement has been made in the formerly raise, rents. And, although a stiff price was put on the coal during the continuance of the late strike, it must be confessed, to the boose of Mr. Crawshay, sen., that he showed much consideration for the sufferers by acts of noble generosity, and the good sense and basiness tact of the firm was manifest by continuing its general business and coal trade whilst others were wasting the best esson brokes and continuing a strike; and, no doubt, both kindness and business tact of the firm was manifest by continuing its general business and coal trade whilst others were wasting the best esson gones have and continuing a strike; and, no doubt, both kindness and business tact of the firm was manifest by continuing its general business and coal trade whilst others were wasting the best esson gones have a propect, it is affirmed, of more regular and active business and work at the forge. Sew

TRADE OF THE TYNE AND WEAR.

TRADE OF THE TYNE AND WEAR.

Feb. 18.—The Coal Trade on the Tyne has been pretty good, and shipments of steam, gas, and house coals have again been very considerable. The coal trade at Blyth has also improved, and most of the works kept going. The demand for steam coal has considerably improved since the commencement of the strike in South Wales. The demand for house and gas coal continues steady, but there is no change in quotations. The demand for coke is brisk, and best qualities have in some cases realised rather higher prices lately. The shipbuilding trade on the Tyne is almost at a stand at present owing to the strike of workmen, and about one-half of the chemical works are also in a similar position owing to the same cause, and there is no prospect at present of any settlement of the disputes. It is expected that the question of the miners' wages in Northumberland will be settled by arbitration, and also the wages of the miners in Cleveland. The price of iron ore in Cleveland at present is very low, about 3s. 6d. per ton, the price of the same ore in 1873 having been 7s. per ton. The quantity of this ore worked is about 6,000,000 tons per annum, but many new works and extensions of old works are in progress, so that the output will be largely increased shortly.

There is no change to report of importance in the Iron Trade. At Middlesborough, on Tuesday, there was a large attendance, and the market was firm, prices were based on 59s, per ton being asked by makers for No. 3 Cleveland pig. A good business continues to be done in pig-iron, shipments being on a good scale both for foreign and coastwise. In the finished iron trade there is no new feature, a few orders for rails have been received, and it is expected that foreign orders for new rails will shortly become more plentiful. Confidence to a considerable extent has been restored by the reference of the Cleveland miners dispute to arbitration. There is continued difficulty with some of the blast-furnace men, but this is expected soon to be settled. Rai

difficulty with some of the blast-furnace men, but this is expected soon to be settled. Rails are quoted, ordinary sections, 7L per ton. The demand for ship-plates, as might be expected, continues very limited, prices 8L 15s. to 9L; common bars, 8L 2s, 6d; puddled bars, 5L to 5L 5s. The Coke Trade, as observed above, is very firm, and prices of best qualities are higher, averaging 17s. 6d. to 18s., delivered at the blast-furnaces. Those who secured contracts at the commencement of the year extending for 12 months have acted wisely

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 18.—There has been but little change indeed with respect to operations in mining and manufacturing in either Derbyshire or Yorkshire of late. In the Peak and other districts where lead mining is carried on in Derbyshire, the production of ore has been steady, and few new mines have been opened out for some time. The collieries in the eastern part of the county have been working well, although the demand for coal is far from being so active as it was two or three weeks ago, and so far as household qualities are concerned a still greater decline is now looked forward to. This will, of course, lead to a fall in the price, to be followed by a reducwill, of course, lead to a fall in the price, to be followed by a reduc-tion of colliers' wages. The trade with London is just now but er but tion of colliers' wages. The trade with London is just now but moderate, and there has been a decline in the tonnage sent from several of the leading districts. However, the favourable position of the collieries in the neighbourhood of Alfreton, Langley Mill, and the Codnor Park is such as to ensure for them a large share of the mineral traffic to London and the South, from their being the nearest tropolis,the districts having direct railway communication with the metre eastern and other counties. The Great Northern is pushing eastern and other counties. The Great Northern is pushing forward its line from Nottingham to Derby, or rather that part of it between the former town and Langley Mill, so as to enter as soon as pos-sible into the very heart of the fine coal field which up to the present sible into the very heart of the fine coal field which up to the present time is in the full possession of the Midland Company. It is expected that the portion of the line alluded to will be ready for traffic by the end of September, when there will be a heavy fight, no doubt, between the two powerful companies for the coal traffic, and in all probability they will be greater antagonists than they have been before. Raw and manufactured iron is in very fair request, and the workmen are very well employed at the furnaces and In one or two breaches.

In one or two branches of the Sheffield trades there has been ittle improvement, but there are a good many men still only partly employed. The heavy plate and other mills have been doing very well, and there is a rather better enquiry for the finer qualities of table and other cutlery.

Bessemer ralls and forgings have undergone no change the steel I sagreed the ones, espe business h — that of connected The South prices have days more wagons, we evident the is required opened ou much gree coal collie dications MESSRS
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REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

geport from North and South Staffordshire Iron Trade must gain be pronounced weaker, both in the pig and finished departments. In both cases the weakness is most noticeable in the neats. In both cases the weakness is most noticeable in the chapter classes of production. Common cinder-pig is affected by the large arrivals of pig-iron of corresponding quality from the foundry districts, and sales have been reported at 32. 2s. 5d., being 2s. 6d. per ton under last quotations. A fair medium class of pig made of mixed mine and cinder, is offering at 4l. per ton. The feating makers of best pig-iron, especially of the class used in the foundries, experience a fairly steady trade. Further attention is being given in various parts of the district to the need for economising the production of pig-iron by a modification of the arrangements of the furnaces, which will secure the consumption of the moke and gaseous vapours now permitted to escape in waste. It is, however, improbable that the furnaces being thus manipulated will be set in operation until the aspect of business improves. The finished iron trade is fairly steady in the best classes, sheets and plate being still the more prominent features of enquiry. Marked ans are well sustained at the standard of 10l. 10s., 11l., and 11l. 12s. 6d. per ton. Common unmarked bars are changing hands at as low a case of the common unmarked bars are changing hands at a low a case of the common unmarked bars are changing hands at as low a case of the common unmarked bars are changing hands at a low a case of the common unmarked bars are changing hands at as low a case of the case of the case of the demand is year much particled. millo see that is fairly steady in the best classes, sheets and plate being still the more prominent features of enquiry. Marked has are well sustained at the standard of 104, 10s., 114, and 114, 12s. 6d. per ton. Common unmarked bars are changing hands at as low a figure as 84, 17s. 6d. per ton, and the demand is very much restricted, may of the Jemaller mills and forges being only in partial operation. There is a scarcity in the market just now of the particular class of sheets used in the manufacture of corrugated roofing, and the Darlaston Galvanising Company (Limited) contemplate erecting sheet rolling-mill adjacent to their newly-finished works at Darlaston Green as the best solution of the difficulty, which is a periodically recurring one, of obtaining in adequate quantity supplies of material. Some orders for hoops on Spanish account are being given out, and there are moderate enquiries for guide, horse-shoe, and roding of the better class.

The South Staffordshire Coal Trade is a degree quieter, but with the exception of Cannock Chase slack, which has been reduced 1s. to 1s. 6d. per ton, prices remain unchanged. Some of the commonest class of furnace coal is quoted 9s. per ton, but nothing of a reliable quality is obtainable under 10s. at the pits. In the Pelsall district sep oal is firm at 13s. per ton, and the Thick coal masters around budley and West Bromwich are not making any concessions on the pries last quoted. Ironstone is in steady request, and prices are rell supported. Limestone for flux in iron smelting is in restricted suply, and some inconvenience at the blast-furnaces of the district light in consequence. The falling off in the arrivals is ascribed not than deficiency in the yield, but to the inability of the carrying companies to deal adequately with the traffic.

Several new mining enterprises in and around the South Stafford-hire district, one or two are of considerable importance, are about to be lanched shortly.

To-day's quotations on the Birmingham Stock Exchange included the foll

credit.

The Coalbrookdale Foundry (Shropshire) is largely engaged on lary castings, principally connected with railway work.

There is moderately sustained activity in the Iron Trade of the North Staffordshire district. The merchant bar mills are doing 8 to 10 turns per week. Bars of the heavier class are only in moderate demand. The rate for crown bars is 2s. 6d. easier, at 9l. per ton.

[For remainder of Business Correspondence, see page 193.]

NGINE (One 8-horse power semi-portable) TO BE SOLD, ORE shorse power grasshopper ENGINE, by Easton and Amos, with a set of line-throw gun metal PUMPS; 4½ ditto brass glands and buckets; three can be separated.

beganted.

ONE Shorse power high-pressure direct-acting ENGINE.

ONE Shorse power high-pressure direct-acting ENGINE.

ONE Shorse power marine ENGINE, highly finished, fit for a small launch.

ONE set of three-throw 3-in. gun metal PUMPS, brass glands and buckets, were connecting rods, and a three-throw wrought-iron crank.

ONE highly finished self-acting LATHE, 13 ft. beds, eight centres, saddle, and mirreal chuck; two-planed iron saw benches, to take in 24 in. saws, with patent tracers levers and patent bearings; three lengths of 2½ shafting, 97 ft. run, with lock and hemp falls.

Address, Mr. W. P. France, Priory Lodge, Peckham.

POR SALE, ONE PAIR of horizontal direct-acting double action condensing PUMPING ENGINES; cylinder, 35% in. diameter, 36 in. skoke; pumps, 21% in. diameter, 36 in. skroke; fly-wheel, 14 ft. diameter; about liess. Will life 2500 gallons a minute 150 ft. high. Have been very little used. For further particulars, address, Mr. W. P. France, Priory Lodge, Peckham.

PIT SINKING AND WINDING COAL. PIT SINKING AND WINDING COAL.

OB SALE, and ready for immediate delivery, a 14, 18, 25, and 35 horse power PORTABLE STEAM ENGINES, with link motion wering gear, winding drum, gear, &c., complete.

Also, a Fand lis horse power VERTICAL ENGINES, with link motion reversing gear, uninding operations.

TOR SALE,—An excellent PORTABLE STEAM ENGINE; and a 7-ft. PAN ROBIAL —An excellent PORTABLE STEAM ENGINE; and ST-L PAN ROBIAL MILL.

Apply to—

BARROWS AND STEWART, ENGINEERS, BANBURY.

NOR SALE, a HORIZONTAL HIGH-PRESSURE ENGINE, 13% in. cylinder, 24 in. streke; HORIZONTAL HIGH-PRESSURE ENGINE, 14 in. cylinder, 30 in. streke; and a PAIR of GUN-METAL PUMPS is, diameter, 12 in. stroke; also, a TUBULAR BOILER, up to 60-horse power of lorkshire plates throughout. Yorkshire plates throughout.

Apply to W. T. HENDEY and Co., 2, Wilson-street, London E.C.

IMNK LOCOMOTIVES, double 9 in., cheap, strong, and well finished: portable ENGINES, from 4 to 30 horse power—always ready, or as forward state, with or without winding or pumping gear; vertical ENGINES at BOILERS, of improved design.

LEWIN, POOLE WORKS, DORSET.

Maleridonal a la radhea

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the GREAT WORK CONSOLS MINING COMPANY.—Notice is hereby given, that a Petition for the Winding-up of the above-named company by the Court was, on the 18th day of February instant, presented to the Vice-Warden of the Stannaries, by Joseph Walker Tyacke, of Helston, within the Stannaries of Cornwall, gentleman, a shareholder of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Monday, the 1st day of March next, at Twolve o'clock at noon.

Any centributory or creditor of the company was appeared to the heaving and

within the said Stannaries, on Monday, the 1st day of March next, at Tweive o'clock at neon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitors, or their agents, of his Intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro. Every such contributory or creditor is entitled to a copy of the petition and sfindavit verifying the same from the petitioner, his solicitors, or their agents, within 24 hours after requiring the same, on payment of the regulated charge per folio. Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 26th day of February instant, and notice thereof must, at the same time be given to the petitioner, his solicitors, or their agent.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall (Petitioner's Solicitors).

GREGORY, ROWCLIFFES, AND RAWLE, 1, Bedford-row, London (Agents of the said Solicitors).

Dated Truro, 17th February, 1875.

WHEAL MARY ANN MINE,

Near Liskeard, one mile from Menheniot Station on the Cornwall Railway.

SALE—TUESDAY, WEDNESDAY, and THURSDAY, 23rd, 24th, and 25th
February, 1876.

TR. SPRY has received instructions to SELL, BY PUBLIC
AUCTION, on the days above mentioned, at Twelve o'clock (noon) precisely, on WHEAL MARY ANN and TRELAWNY MINES, situate in the parish
of Menheniot, in the county of CORNWALL, nearly 1000 lots of very superior

MINING PLANT, MACHINERY, AND MATERIALS,
COMPRISING

MINING PILANT, MACHINERY, AND MATERIALS,

COMPRISING

ONB 80 inch cylinder PUMPING ENGINE, 10 ft. 6 in. stroke, equal beam, with FOUR 10 ton BOLLERS, brass bucket, brass-lined well-work, &c. It is considered that this lot cannot be excelled by any similar engine in the county.

ONE 70 inch cylinder PUMPING ENGINE, 10 ft. 6 in. stroke, equal beam, with FOUR 10 ton BOLLERS, &c.

ONE 46 inch cylinder BULL ENGINE, 7 feet stroke, equal beam, with new well-work, brass bucket, &c.

ONE 26 inch cylinder WINDING ENGINE, 7 ft. stroke, equal beam, with ONE 8 ton BOILER, eccentric gear, and winch.

ONE 24 inch cylinder WINDING ENGINE, 6 ft. stroke, equal beam, with TWO 9 ton BOILERS, and winch.

ONE 25 inch cylinder ENGINE, 5 ft. stroke, equal beam, with ONE 8 ton BOILER, winch, grinder and stamps (12 heads).

ONE 25 inch cylinder HORIZONTAL WINDING ENGINE, 5 ft. stroke, with ONE 8 ton BOILER.

The CASTINGS of an ENGINE.

Capstan, stand, and stays. Shears, stays, and pulleys.

PITWORK of every de-cription—an immense quantity, from 9 to 15 in.

Plunger poles of various sizes, cast-iron balance and angle bobs, three water-wheels, steam capstan, punching machine, fire whim cage, weighbridge (9 tons), strapping plates from 5 to 7 inches, staples and glands, flange and rod pins, large and small pulleys, edite screws, brass valves and seatings, brass plate for bucket.

200 fms. best steel wire rope, 3½ inches, good as new.

105 fms. ½ in. chain.

Ladders, bridge rails, rall iron, tram wagons, tram wheels, large bell, turning lathe (back gear), large beam scales and wrought iron.

Prime half and square timber, plank, &c., &c.

The best machinery and materials having been invariably purchased for these mines, and many of the lots having had very little wear, it is respectfully intimated to Engineers, Mine Proprietors, and Agents, who require to purchase, that it will be to their advantage to attend this important sale.

The engines will be offered on the first day of sale, and the pitwork, &c., &c., immediately afterwards, and on

IMPORTANT TO SLATE QUARRY PROPRIETORS, CAPITALISTS, AND OTHERS. SALE OF THE VALUABLE SLATE AND SLAB QUARRY, KNOWN AS

THE CROESOR UNITED SLATE COMPANY

THE CROESOR UNITED SLATE COMPANY (LIMITED).

MESSRS. WM. DEW AND SON WILL SELL, BY PRIVATE SLATE QUARRY, where there is a large deposit of slate rock second to none in the Principality.

The slate ground extends over 370 acres, only 10 acres of which have as yet been explored. There are also 199 acres of tipping ground. The celebrated

FESTINIOG BLATE VEIN,

The slate ground extends over 370 acres, only 10 acres of which have as yet been explored. There are also 199 acres of tipping ground. The celebrated

FESTINIOG BLATE VEIN,

The same as the Welsh Slate Company's, runs under the whole of the property. It is held under a lease of which 46 years are unexpired, with power to claim extension for 20 ye vs. The present dead rent is 4250, and in September, 1875, it becomes 2600, merging into royalty varying from 1-14th to 1-10th, according to the quantity annually sold.

The slates are of good quality, and find a ready market. A tramway from the quarry to Port Madoc, to the construction of which the company contributed a large sum of money, affords every facility for the cheap and expeditious conveyance of the slate to the place of shipment, and the company have a contract for the use thereof, on very moderate terms.

There are very extensive saw mills, with two powerful water wheels; sawing tables, planing tables, slate dressing machines, and other machinery for working saw mills; a long tunnel for drawing and working the quarry; extensive railway inclines, wagons, two 12-horse power locomotive steam-engines, put up for temporary purposes; ventilating fan; two excellent dwelling-houses, barracks, workshops, stables, &c.

For further particulars and plans, apply to Messrs. JERNINGS, WHITE, and

porary purposes, ventilating and strong seasons and plans, apply to Messrs. Jennings, White, and Buckston, Solicitors. 5, Whitehall-place, London; Mr. J. E. Jones, Secretary, Port Madoc; Mr. T. Williams, Agent, at the quarry; and to Messrs. Wm. Dew and Son, Auctioneers, Wellfield House, Bangor, and High-street, Rhyl.

ROCKS TIN MINE, ST. AUSTELL.

VALUABLE MINE MACHINERY AND MATERIALS FOR SALE.

TO BE SOLD, BY PUBLIC AUCTION, at Rocks Tin Mine, in the parish of St. Austell, in the county of Cornwall, BY MESSISS. HANOOCK AND SON, on Tuesday, the 2nd day of March next, at One o'clock in the afternoon precisely, the WHOLE of the

VALUABLE MACHINERY AND MATERIALS

on the said mine, comprising— ONE 29 in. cylinder rotary STEAM ENGINE, with two heavy fly-wheels; and ONE BOILER, about 10 tons. ONE SMILER, about 10 tons.

ONE small horizontal (donkey) ENGLNE, by Wilson, Vallenin, 272 in. Mareter, and 3 in. stroke.
Four 12-head iron STAMPS AXLES, iron and wood frames and lifters, 48 stamp leads, drags, &c.
Blake's Patent STONE BREAKER, by R. Marsden, Leeds, with a cylindrical

Blake's Patent STONE BREAKER, by R. Marsden, Leeds, with a cylindrical sereen.

ONE 12 fm. 8 in. PLUNGER LIFT.
ONE 10 fm. 7 in. DRAWING LIFT.
ONE 10 fm. 7 in. DRAWING LIFT.
ONE 9 fm. 8 in. DRAWING LIFT.
Iron rods, pulleys, stands and bobs, 7 Williams's patent and several other bud dles, with gear work complete, shears, stays and shieves, wood houses and sheds, in kieves, racks, iron winding cage for steam whim, horse whim, 40 fms. 34 in. whim chain, other ditto, tram wagons, small boiler (about 2 tons), about 30 cwts. of new cast borer steel, miners' and smiths' tools, including 36 in. smiths' bellows, samplers' beam, scales, and weights (in glass case), blocks with chain, screwing stock, boring machine, a quantity of 2 in. and 1/2 in. iron tubing, 4 in. cast pleps, Norway balk and other timber, wood hand pump, new and old brass, sieve, copper bottom and other dressing tools, 21 tin bags, safety fuse, dynamite, crab winch, grinding stone, the castings of a direct acting patent steam stamps, and sundry other articles in general use in mines: also, the account house furniture.

MESSRS. HOUGE, HOCKIN, AND MARRACK, Solicitors, Truro. Dated Truro, Feb. 18, 1875.

POR SALE, BY PRIVATE BARGAIN, the WHOLE LEASES.

STEAM ENGINE, WATER WHEEL, PLANT, MACHINERY, STOCK
and EFFECTS, belonging to

THE GALWAY MINING COMPANY (LIMITED),

Of and on the various ESTATES held on Mineral Lease by the company, near OUGHTERARD, in the county of GALWAY.

Apply to Capt. FLOYD, Wellfield, Oughterard, who will show the ground and give explanations as to workings; or to the Subscriber as to the Assignment of Leases, and for all other particulars.

Hamilton, N.B., 8th February, 1875.

TO CAPITALISTS.

TO R SALE, —IN NEW SOUTH WALES,—

1340 ACRES TIN LANDS,—Lode and Stream.

2430 ACRES COPPER LANDS (portions freehold).

2112 ACRES IRON AND COAL.

2250 ACRES COAL (inland, on railway line).

200 ACRES KEROBENE SHALE.

200 ACRES KEROBENE SHALE.

200 ACRES KEROSENE SHALE.
200 ACRES PLUMBAGO.
105 ACRES PLUMBAGO.
The above properties are all first-class, and on or near railway lines or wate carriage, and are the very "pick" of their respective districts (being some of the first selections made).
Liberal terms, either as to purchase or working on royalty, who is given to parties able to carry out arrangements.

Apply to the owner.
CHARLES W. WEEKES, Circular Quay, Sydney, N.S.W.

COALS.

COALS.

CONTRACT DEPARTMENT, ADMIRALTY, WHITEHALL, S.W.,
10TH FEBRUARY, 1875.

TENDERS will be RECEIVED, until Two o'clock on Thursday,
the 26th inst., for the SUPPLY of LAND ENGINE, FURNACE, METAL
MILLS, SMITHERY, COKED, BAKERY, and HOUSEHOLD COALS, to Her
Majesty's Dockyards, Victualling Yards, Royal Marine Barracks, Naval Hospitals, &c.
The contracts are for specific quantities, and for forward delivery within stated
periods.

The contrains are to reperfect of the quantities required.

Tenders may be made for the whole or any portion of the quantities required.

Their Lordships do not bind themselves to accept the lowest or any tender, and they reserve to themselves the power of accepting any part of a tender. Forms of tender, containing all particulars, may be obtained on personal or written application to this office.

FRANCIS W. ROWSELL, Superintendent of Contracts.

PRANCIS W. ROWSELL, Superintendent of Contracts.

PURSUANT to a Decree of the High Court of Chancery, made in a Cause INGHAM against RICHARDSON (1875 I 5), the CREDITORS of JAMES STANSFIELD, late of Todmorden, in the county of York, who died in or about the month of November, 1874, are, on or before the 22nd day of March, 1875, to send by post, prepaid, to William 8, agers, of Todmorden, in the county of York, the solicitor of the defendant, Hannah Stansfield, the administrative of the deceased, their Christian and Surnames, addresses and descriptions, the Christian and surnames in full of any partner or partners, the particulars of their claims, a statement of their accounts, and the nature of the securities (if any) held by them, or in default thereof THEY WILL BE PEREMPTORILY EXCLUDED FROM THE BENEFIT OF THE SAID DECREE. Every creditor holding any security is to produce the same before the Vice-Chancellor Sir James Bacon, at his Chambers, situated No. 11, New-square, Lincoln's Inn, in the county of Middlessex, on Wednesday, the 7th day of April, 1875, at Twelve o'clock at noon, being the time appointed for adjudicating on the claims.

Dated this 12th day of February, 1875.

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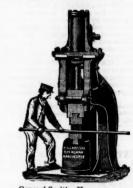
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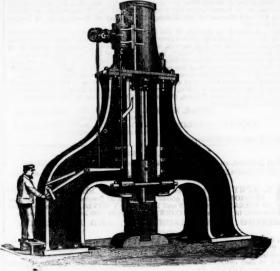
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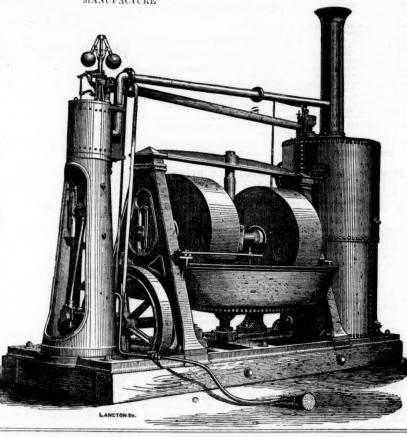
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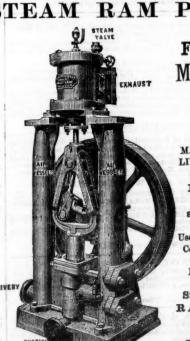
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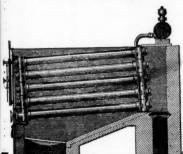
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think proper."

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ndon: MINING JOURNAL Office, 26, Fleet-street; and to be had of all book-

M INING PROSPECTUSES AND ANNOUNCEMENTS OF PUBLIC COMPANIES should be inserted in the BARNSTAPLE TIMES, published every Tuesday, and in the DEVON POST, published every Saturday, as these papers circulate largely throughout Devon and Cornwall, where many thousands of investors reside. Legal and Public Companies' advertisements, 6d. a line asch insertion; Trade and Auctions, 4d. a line; Wanteds, &c., 20 words, is. Published by J.B. JONES, Boutport-street, Barnstaple, Devon to whomsilorders, by post or telegraph should be seat.

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| - | THE MINING | | | Shares | NON-DIVIDEND MI | NES. Paid. Last Pr. Clos. Pr. | NON-DIVIDEND MINE **Mines** 6000 West Wheal Gorland, t,c. 292 West Wheal Seton, c, Camborne† 6000 Wheal Agar, c, Illogan. 5000 Wheal Agar, c, Illogan. 5000 Wheal Agar, c, Illogan. 5000 Wheal Argus, t, Sancreed 2500 Wheal Argus, t, Sancreed 2500 Wheal Argus, t, Sancreed 2500 Wheal Agar, t, Sancreed 5000 Wheal Agar, t, Sancreed 6000 Wheal Graching, c, Tavistock 8400 Wheal Creebor, c, Tavistock 8400 Wheal Creebor, c, Tavistock 8400 Wheal Grachille, c, Camborne* 12000 Wheal Greeville, c, Camborne* 12000 Wheal Greeville, c, Marazion 12000 Wheal Sparuon, t, Sedruth 10000 Wheal Buby, t, Ludgvan 488 Wheal Sparuon, t, Redruth 1000 Wheal Uny, t, c, Redruth 1000 Wheal Uny, t, c, Redruth 1000 Wheal Uny, t, Linnrwst 1000 Wheal Uny, t, Linnrwst 1000 Wye Valley, t, Montgomery* 1200 Zennor, t, Cornwall | B-Continued. |
| Shares | ## BRITISH D ## Mines. **Mines.** **Min | DIVIDEND MINES | r. Total divs. Pershare. Last paid | 10000 | Aberdaunant, l. Llanidloes* Aberystwith, s.l. Cardigan Assheton, l. Carnaryonshire* | 5 0 0 1%1% 1% 5 0 0 1%1% 1% | 292 West Wheal Seton, c, Cambornet . 6000 Wheal Agar, c, Illogan | 28 16 9 10 10 0 0 |
| 8500 | O Bampfylde, c, i, mn., Devon* 1 (O Blaen Caelan, s-l, Cardigan* (24 sh.) 3 10 | 24: 34 34 | 0 2 0 0 2 0June 1873 | 12000 12000 | Assheton, I, Carnarvonshire* Ballycummisk, * c, Schull Bedford Consols, c, Tavistock Bedford United, c, Tavistock Bedistone, * c, Devon (3000 sh. 10a. pd.) Bine Hills, * t, c, St. Agnes Sog, I, Shropshire* Bowden Hill, * mn Burrow& Butson, * t, c, bl, St. Agnes Burra Burra, * t, c, bl, Kenwyn Burra Hurra, * t, c, bl, Kenwyn Bwedrain, * t, Cardigan * (£6 sh.) Bwelch Consols, * d, Cardigan* (£6 sh.) | 2 0 0 1 7 0 1 17 6 54 4 34 | 5000 Wheal Allen, ***! 6000 Wheal Argus, t, Bancreed 2500 Wheal Arthur t & Calstook | 0 10 0 |
| 200 10000 4000 | 0 Botallack, t, c, St. Just | 5 0 60 55 60 | 619 15 0 5 0 0Aug. 1872 2 3 0 0 0 6Jan. 1872 | 25000 I | Belstone, c, Devon (3000 sh. 10s. pd.) Blue Hills, t, c, St. Agnes | 1 0 0 2 13/3 | 741 Wheal Basset and Grylls, t | 9 18 6 |
| 8848 6400 | 8 Cargoll, s-l, Newlyns | 4 8 19 1 19 | 4 16 3 0 12 6Oct. 1872 1 6 6 0 2 6Aug. 1873 | 12000 I | Bowden Hill, * mn Brynambor, I, Cardigan | 1 0 0 1 0 0 | 8400 Wheal Emma, t, c, Buckfastleigh . 8179 Wheal Grenville, c, Camborne | 1 10 0 1 1 |
| 1000 6000 2450 | 0 Cirn Brea, c, t, Illogant | 0 0 08 40 45 4 9 914 8 814 | 308 0 0 1 0 0Feb. 1874 0 7 6 0 7 6June 1873 | 30000 I | Burrow& Butson,* t, c, bl, St. Agnes Burra Burra,* t,c, bl, Kenwyn | 1 0 0 | 12000 Wheal Jewell, c, Marazion | 1 10 5% B. 1 19 0 47." |
| 10240 4296 | 0 Devon Gt. Consols, c, Tavistock†* 6 1 0 6 Dolcoath, c, t, Camborne | 0 0 2½ 2 2½ 1 10 50 45 47½ | 116 10 0 0 12 0 May 1872 105 16 8 0 12 6 Doc. 1874 | 12000 (| Bwich Consols, s-l, Cardigan*[(£5 sh.) | 4 17 6 | 10000 Wheal Ruby, t, Ludgvan 4568 Wheal Sparnon, t, Redruth | 5 7 6 5% 1 0 0 5% |
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| 8400 1906 | D East Darren, l, Cardiganshire 32 0 D East Pool, t, c, Illogan 0 9 East Wheal Lovell, t, Wendron*1 5 16 | 9 9 13 11 12 | 294 10 0 1 0 0Oct. 1874 13 11 3 0 2 6May 1873 | 10000 (| Castle Gate, t, Bt. Colomb* | 1 0 0 34 1 | 12000 Willoughby, l, Llanrwst | 2 10 0 3 0 0 |
| 8000 2800 | 0 Foxdale, I, Isle of Man*† | 00 = | 0 1 0 0 1 0May 1873 80 15 0 0 10 0Bept, 1872 | 3000 C 10000 C | Bwich Consols, s-l, Cardigan*1 (£5 sh.) Jac Gynon, l, Cardiganshire*† Laidbeck Fells, l, Cumberland* Larden* (£10 shares) Lart Camborne, c, t, Camborne Laste Gate, t, Bt. Colomb* Lathedral, t, c, Gwennap* Left Brwyno (lim. to £5) Lentral Van, *l, bl. Llanidloes Lourt Grange, s l, Cardiganshire Lourt Abraham*† (£5949 sh. £1). Lourt Layden, * s.l, Montgomery Lown Bychan, * s.l, Montgomery Lown Ricket and Maesnant, l, Mont.* Lown Ricket and Maesnant, l, Mont.* Lown Waystwith, l, Cardiganshire Bose Park Lt. Taylstock | 5 0 0 | 1300 Zennor, t, Cornwall | . 5 0 0 |
| 15000 25000 | Great Laxey, l, Isle of Man* | p.] 11% 11 11% 0 0 11% 11 11% | 17 9 0 0 6 0Jan. 1875 0 2 0 0 1 0Aug. 1874 | 24051 C 15000 C | renver & Abraham*† (25949 sh. £1). wm Bychan,* s.l, Montgomery | 2 0 0 36 36 36 | | |
| 5908 6400 20000 | Great Wheal Vor, t, c, Helston† | 50 36 36 % 50 5 31/31/ | 15 19 6 0 2 6June 1872 1 12 0 0 4 0Oct. 1874 | 10000 0 | wm Nant Ddu, * l, Montgomery wm Ricket and Maesnant, l, Mont. * wmystwith, l, Cardiganshire I 6 | 2 11 0 — 30 0 0 0 — | 15 Albion Steel and Wire Co. [L.] 5 Alltami Colliery Co. [L.] | 13 10 0 10% |
| 10240 1024 | 0 Gunnislake (Clitters'), t, c | 50 1½ 11½ 00 3½ 33½ | 0 1 0 0 1 0Nov. 1874 62 5 0 0 15 0Oct. 1872 | 15000 I | Deer Park, t,c, Tavistock Denbighshire Consolidated, t Ding Dong, t, Gulval Dolwen Consols, t, Cardigan Duchy Great Consols, c, Calstock Dyliffe, t, Montgomeryshire | 2 0 0 3 0 0 3 2 3 | 10 Bagnall, John, and Sons [L.] | 10 0 0 6 |
| 25000 400 | hingston Downs, c,Caistock*(£1sh.)2 5 Killaloe, si, Tipperary | 50 1½ ½ ½ | 0 3 11½ 0 0 6 Mar. 1873 564 10 0 1 0 0 July 1874 | 12000 J | Dolwen Consols, l, Cardigan* Duchy Great Consols, c, Calstock | 1 0 0 | 10 Bilson & Crump Meadow Coll. Co.[L.] 25 Birmingham (Blakeley Hall) Coal. | .]10 0 0 14 |
| \$120 11000 9000 | Melindur Valley, l, Cardigan* 3 (a) Minera Mining Co., l, Wrexham* 5 (c) | 00 21/3 | 0 17 6 0 1 6Jan. 1874 0 7 2 0 3 7Jan. 1875 | 512 1 | Dyliffe, I, Montgomeryshire | 3 10 0 4 3 4 | and Ironstone Company [L.] 4 Blaen Cwmbach Coal Co. [L.] 50 Blaenayon Iron and Steel Co. [L.] | 25 0 0 |
| 20000 12000 | 0 Hingston Downs, c,Calstock**(£1sh.)2 8 0 Killaios, si, Tipperary 10 0 Lisburne, i, Cardiganshire 18 15 0 Lovell, t, Wendron 0 10 0 Melindur Valley, i, Cardigan* 3 0 0 Minera Mining Co., i, Wrexham* 6 0 0 Mining Co. of Ireland, cl., c, l* 7 0 0 North Hendre, i, Wales 2 10 0 North Levant, t, c, 8t. Just 12 2 0 0 North Levant, t, c, 8t. Just 12 2 | 60 = | 62 5 0 0 15 0 Oct. 1872 4 3 0 0 5 0 Dec. 1872 0 5 11½ 0 0 6 Mar. 1873 0 17 6 0 1 6 Jan. 1874 0 17 2 0 3 7 Jan. 1875 0 5 15 2 0 2 0 Nov. 1874 0 17 6 0 1 6 Jan. 1874 0 8 0 0 3 6 July 1872 0 17 6 0 2 5 Oct. 1874 4 13 0 0 12 0 Sept. 1874 | 8000 I | East Boscaswell, t, St. Just | 5 0 0 — 3 0 0 — | 50 Blochairn Iron Co. [L.] | 15 0 0 35 0 0 19 |
| 7000 | Old Treburgett, * s-l, ordinary shares 1 0 | 00 44 | 4 13 0 0 12 0Sept. 1873 0 0 9 0 0 9Feb. 1874 0 0 1014 0 0 1014 Feb. 1874 | 3000 I 6000 I | Dyllife, * i, Montgomeryshire Sast Black Craig, * l., Scotland | 6 5 0 136136 136 0 0 0 0 — 7 2 6 36 36 | Shares. Company. ##ONA NAD COAL CL Coal Coal Coal | 30 0 0 18 1s |
| 5694 5000 43793 | Penhalls, t, St. Agnes | 10 7 80 00 2 136 2 | 0 \$ 0 0 \$ 0Nov. 1871 8 9 8 0 2 6Jan. 1875 | 4000 I 50000 I | East Gunnislake and So. Bedford, c 1 East Llangynog, l, Montgomery* | 8 13 0 — 9 0 0 — | 50 Britannia Ironworks [L.] 50 Brown, Bailey, and Dixon [L.] 100 Brown, John, and Co. [L.] | 25 0 0 40 0 0 94 2 |
| 6000 1772 | Phœnix, t, c, Linkinhorne 4 13 Polberro, t, St. Agnes | 1 4 4% 3% 4 | 39 19 10 0 4 0Nov. 1872 1 12 6 0 5 0Mar. 1872 | 15000 I 20000 I | East Van, i, Llanidloes* | 8 0 0 1 3/4 1 1 0 0 — | 100 Cammell and Co. [L.] | 80 0 0 12 |
| 1120 2000 | Prince Patrick, * s-t, Holywell 1 0 Providence, t, Lelant†\$ 16 16 Queens, s-t, Holywell* 2 0 | 57 5 44% | 0 9 0 0 2 0Jan. 1875 104 12 6 0 10 0Sept. 1872 0 2 0 0 2 0Sept. 1874 | 5000 I 12800 I | Toronge and Tonkin Tinited# / | 0 10 0 - | 10 Cardiff & Swansea St. Coal Co. [L.]. 19 Cardigan Steel and Wire Co. [L.] 10 Central Swedish Iron and Steel II | 7 10 0 7 |
| 10000 512 | Homan Gravels, I, Salop* | 0 13 123/ 13 | 4 10 6 0 8 6Dec. 1874 0 1 0 0 1 0Feb. 1872 | 5000 I 8000 I | ranco Consols, t, c* | 4 16 0 56 36 36 | 5 Chapel House Colliery | . 8 0 0 14 d |
| 5000 6000 | Bouth Carn Brea, c, t, Illogan 2 1 Bouth Darren, l, Cardigan 3 6 | 6 114 36 1 | 0 10 0 0 2 6July 1872 1 1 6 0 1 6Nov. 1870 | 3950 G | awton, c, Tavistock | 1 0 0 — 3 17 6 % ¾ ¾ ¾ | 10 Chillington Iron Co. [L.] 1 Clee Hill Colliery Co. [L.] | 1 0 0 0 6% |
| 8771 12000 | 0 North Levant, t, c, 8t. Just \$ 12 3 0 0 10d Treburgett,* s-t, ordinary shares 1 0 0 10d Treburgett,* s-t, (10 per ct. pref.) 0 10 Pendnis, t, 8t. Agnes 3 0 Penhalis, t, 8t. Agnes 3 0 Penetruthal, t, c, Gwennap. 2 0 0 Phoenix, t, c, Linkinhorne \$ 4 13 2 Polberro, t, 8t. Agnes 5 0 Providence, t, Leianti \$ 10 10 Noman Gravels, t, 8alop* 7 10 8helton, cl, t, 8t. Austell 1 0 2 South Caradon, c, 8t. Cleer 1 5 0 South Caradon, c, 8t. Cleer 1 5 0 South Carae, t, Cardigan* 3 1 0 Bouth Darren, t, Cardigan* 3 1 0 Bouth Darren, t, Cardigan* 3 1 0 Bourt Darren, t, Cardigan* 3 1 0 5 Do. Pr. Patrick,* s-t. (8000 sh. issued) 1 1 Tankerville, t, 8alop* 5 0 | 0 | 0 4 0 0 2 0Jan. 1875 | 12500 G | lawton, c, Tavistock lem, t, Whitchurch | 2 0 0 | 1 Consett Spanish Ore [L.] | 7 10 0 15 |
| 15000 | Tineroft, c, t, Pool, Illogant 9 0 Tretoil, t, i, Bodmin 2 0 | 0 0 28 24 26 | 47 18 6 0 5 0Feb. 1875 0 1 0 0 1 0Mar. 1874 | 12000 G 7500 G | oginan, and Level Newydd, Card., l orsedd and Merllyn Consols. l. Flint | 1 5 0 1 5 0 2 10 0 1½ 1 1½ | 20 Darlington Iron Co. [L.] 10 Davis's Merthyr Colliery Co. [L.] 50 Dayy Brothers [L.] | 8 0 0 3 |
| 15000 3000 | St. Just Amalgamated, t* | 5 0 24 23 24 0 0 21 23 24 | 13 19 6 0 10 0Nov. 1872 52 10 0 0 5 0June 1873 | 2000 G | l'an Severn, s-!, Flintabire. iobbett, t, Dartmoor. ioginan, and Level Newydd, Card., l' iorsedd and Merllyn Consols, l, Flint ireat Mountain, s-!, Carnarvon ³ reat Retallack, s-!, b, Perranzabuloe it. West Chiverton, s-! (8000 shares), ireat Wh. Lovell, t, Wendron | 1 0 0 — 3 8 0 — | 100 Brown, John, and Co. [L.] 100 Cammell and Co. [L.] 20 Cannock and Huntingdon Coal [L.] 10 Cardiff & Swanses St. Coal Co. [L.] 10 Cardiff & Swanses St. Coal Co. [L.] 11 Cardiff & Swanses St. Coal Co. [L.] 12 Cardiff & Swanses St. Coal Co. [L.] 13 Cardiff & Swanses St. Coal Co. [L.] 14 Chapel House Colliery. 15 Chapel House Colliery. 16 Chapten Iron Co. [L.] 17 Chapel House Colliery Co. [L.] 18 Consett Fron Co. [L.] 19 Consett Fron Co. [L.] 10 Consett Fron Co. [L.] 10 Consett Fron Co. [L.] 11 Consett Fron Co. [L.] 12 Davington Iron Co. [L.] 13 Ebbw Vale Co. [L.] 14 Davis's Merthyr Colliery Co. [L.] 15 Ebbw Vale Co. [L.] 16 Fairbairn Engineering 17 General Mining Ass. [L.] (£1 returne 18 Glasgow Port Washington [L.] 19 Great Western Coai Co. [L.] 10 Great Western Coai Co. [L.] 11 Hendreforgan Colliery Co. [L.] | 29 0 0 10 |
| 3048 513 | West Tolgus, c, Redruth | 9 0 67 65 67 8 9 10 9½ 10 2 6 15 10 15 | 3 10 0 1 5 0Dec. 1874 3 12 6 6 5 0Oct. 1872 | 4096 G | reat Wh. Lovell, t, Wendron | 3 4 0 — 1 0 0 — | 10 Glasgow Port Washington [L.] 20 Great Western Coai Co. [L.] | 8 0 0 3½ 17 0 0 |
| 2048 4295 896 | Wheal Jane, t, Kea | 10 5 5 5 ½ 6 5 ½ 4 ½ 5 ½ | 11 0 0 1 0 0Dec. 1874 11 19 6 0 2 6Dec. 1874 | 6000 E 6000 E 50000 E | rreat Wh. Lovell, t, Wendron slay, l, Sotland* (ceswick United, l* (illifreth, t, Chacewater. (illifreth, t, Chacewater. (illifreth, t, Salop evant, c, t, St. Just lanarmon, Denbigh lanardose Wh. Van, t, Montgomery lanidloes, l, Montgomery* lanarwos, l, Carnarvon laywernog, t, Cardiganshire | 5 0 0 — 1 2 0 — | 10 Hendreforgan Colliery Co.[L.] | 8 0 0 |
| 80 6000 | Wheal Owles, t, St. Just 76 5 Wheal Prussia, t, Redruth 20 | 0 75 65 75 | 522 10 0 4 0 0Aug. 1872 0 1 0 0 1 0Dec. 1874 | 12000 I 2500 I | adywell,* l, Salopevant, c, t, St. Just | 2 10 0 3 2¾ 3 8 10 0 — | 10 Ifton Rhyn Colliery Co. [L.] 5 Killan and Three Crosses Colliery [L. | 10 0 0 8% |
| 10000 95000 | Wheal Whisper, t, c, Warleggan* 1 0 Wicklow c, sul, i, Wicklow 2 10 | 0 = | 0 1 6 0 0 6 May 1873 | 20000 I 14000 I | lanidloes Wh. Van,* l, Montgomery lanidloes, l, Montgomery* | 1 0 0 3¼ 2¾ 3¼ 3 0 0 3¼ 3 3¼ | 10 Llay Hali Coal, Iron, & Firebrick [L.] 5 Littledean Woodside Coll. Co. [L.] | 17 0 0 816 4 10 0 0 16 die |
| 35500 | FOREIGN D | DIVIDEND MINES. | 1 5 9 0 2 0 Sept. 1874 | 17000 I | | | 10 Llangennech Colliery Co. [L.] 50 Llynvi, Ogmore, & Tondu Co. [L.] 13 Llynvi Valley Col. Co. [L.] 15 p.c. pre- | 10 0 0 46 0 0 14½ 13 |
| 20000 10000 | Almada and Tirito Consol., s*† 1 0 Australian, c, Bouth Australia† 7 7 | 16 1% 1% 1% | 0 4 3 0 1 0May 1873 0 13 6 0 2 0Aug. 1874 | 6000 B 8000 B | fedlyn Moor, t, Wendron | 0 12 10. — | 10 Lydney and Wigpool Iron Ore [L.] 10 Marbella Iron Ore Co. [L.] | 7 5 0 6 |
| 15000 6000 | FOREIGN D Alamillos, I, Spain*†. 2 0 Alamada and Tirito Consol., s*† 1 0 Australian, c, South Australia† 7 7 Butle Mountain, c, (6240 part pd.) 5 0 Birdseye Creek, g, California* 4 0 Burra Burra, c, So. Australia 5 0 Burra Burra, c, So. Australia 5 0 Cape Copper Mining, † So. Africa. 7 0 Central American Association*† 0 18 Chicago, g, Utah* 10 Colorado Terrible, s-l, Colorado*† 5 0 Don Pedro North del Rey*† 0 18 Eberhardt and Ausora, s, Nevada*† 10 Emma, g, s, Utah (25,000 fully pd.) 20 Emglish and Australian, c† S. Aust. 2 10 Erguson, g, California* 2 10 Ferguson, g, California* 3 10 | 0 21/4 25/4 27/4 | 0 14 0 0 2 6June 1874 0 17 4 0 8 0July 1873 | 2524 N 4000 N | farke Valley, c, Caradon* fedlyn Moor, t, Wendron. fellanear, c, Hayle* fount Dalby, s-t, Isle of Man* angiles, t, c, Kea. anty, t, Montgomeryahire* fanty, t, Kea. we Classic, c, Tavistock* we Consols, c, Tavistock* we Fowey Consols, t, St. Blazey* few East Lovell, t, Wendron few Hendra, t, Breage | 1 0 0 — 9 14 0 — * * * * | 2 Gwyngwillim Colliery Co. [L.] 10 Hendreforgan Colliery Co. [L.] 18 Hopkins, Gilles, and Co. [L.] 10 Itton Rhyn Colliery Co. [L.] 2 Killian and Three Crosses Colliery (L. 5 Killian and Three Crosses Colliery (L. 5 Killian and Three Crosses Colliery (L. 6 Littledean Woodside Coll. Co. [L.] 10 Liap Hali Coal, 1 Con. [L.] 10 Liapgennech Colliery Co. [L.] 10 Liapgennech Colliery Co. [L.] 10 Liyuvi, Ogmore, & Tondu Co. [L.] 11 Liyuvi Valley Col. Co. [L.] 15 p.c. prel 10 Liydney and Wigpool Iron Ore [L.] 10 Marry and Cuninghame [L.] 5 Moid Argoed Colliery Co. [L.] 10 Monkland Iron and Coal Co. [L.] 10 Monkland Iron and Coal Co. [L.] 10 Monkland Iron and Coal Co. [L.] 10 Monkland Iron Co. [L.] 10 Nant-y-Glo and Blains (8 p. c. pref.) 10 Neepsend Rolling Mills [L.] 11 Nerbudda Coal and Iron. 20 New Sharlston Collieries [L.] Prof. | 8 0 0 1 dis. |
| 20000 40000 | Cape Copper Mining, *† 80. Africa 7 0 Cedar Creek, g, California* 5 0 | 0 32 31 32 | 18 15 0 1 0 0Dec. 1872 18 15 0 1 0 0Dec. 1874 0 5 0 0 2 6June 1873 | 2000 N 10000 N 20000 N | ant y-Ricket,* c, l, Montgom lew Beldon, l, Northumberland* lew Consols, c, Taylstock* | 5 0 0 — 1 0 0 — 3 0 0 2½ 2 2½ | 10 Monkland Iron and Coal Co. [L.] 10 Midland Iron Co. [L.] 4 Mwyndy Iron Ore [L.] | 5 0 0 7 |
| 80000 15000 21000 | Central American Association*† 0 16 Chicago, s, Utah* 10 0 Colorado Terrible, s-i, Colorado*† 5 | 6 0 0 34 34 34 | 0 6 0 0 1 0July 1869 | 8000 N 15000 N | ew Dolcoath, t, c, Camborne* ew Fowey Consols, t, St. Blazey* | 8 0 0 114 1 114 3 0 0 14 1 114 | 100 Nant-y-Glo and Blaina (8 p. c. pref.) 10 Neepsend Rolling Mills [L.] | 3 0 0 25 |
| 76162 93500 | Don Pedro North del Rey*† 0 16 Eberhardt and Aurora, s, Nevada*† 10 0 | 0 5 34 34 8 | 2 5 9 0 2 0Mar. 1872 1 0 0 1 0 0July 1871 | 2000 N 6000 N | ew Hendra, t, Breage | 0 10 0 2 7 0 1½ 1 1½ 2 0 0 2 1½ 2 2 0 0 2½ 2 2½ | 20 New Sharlston Collieries [L.] Pref 10 Newport Abercarn Coal Co. [L.] | 18 0 0 |
| 60000 70000 | Emma,* g, s, Utah (25,000 fully pd.) 20 0 English and Australian, c† S. Aust. 2 10 | 0 2 11/2 2 | 3 12 0 0 6 0Dec. 1872 2 7 3 9 2 6Mar. 1873 | 6400 N 5000 N | New North Tamar,* s-l, Beerferris ew Pembroke, t, c, Par Station few Rosewarne, c, Gwinear | 2 0 0 2½ 2 2½ 5 4 6 1 ½ 1 4 17 0 ½ ½ ¾ | 10 Northfield Iron Co. [L.] | 8 0 0 8 0 0 134 28 0 0 10 |
| 15000 80000 25000 | Ferguson, g, California* | 0 276 276 356 0 276 276 356 | 0 3 0 0 3 0April 1872 4 2 0 0 5 0July 1873 4 6 10 0 2 6Sept. 1874 | 3200 N 5000 N 1200 N | ew South Merllyn, I, Flint* | 9 10 0 — 0 17 6 — | 20 Pelsall Coal and Iron [L.] | 65 0 0 26 27 10 0 0 434 4 15 0 0 5 |
| 80000 68000 | Gold Run, hyd. 1 0 Kapunda Mining Co. Australia† 1 3 | 0 % % % | 4 6 10 . 0 8 6Sept. 1874 0 2 4 0 0 4Oct. 1872 0 9 4 0 0 6June 1873 | 4000 N 1200 N | few Wh. Grylls, t, Perranuthnoe (ew Wh. Seton, c, Camborne | 8 10 0 136 1 136 0 16 6 — 6 16 8 36 36 36 | 50 Phoenix Bessemer Co. [L.] | 40 0 0 20 19 50 0 0 |
| 15000 7837 | Linares, l, Spain*† | 0 4% 4 4% | 0 2 4 9 0 4Oct. 1872 0 2 4 0 0 6June 1873 0 14 0 9 2 0July 1873 14 14 2 0 2 4Sept. 1874 1 11 6 0 1 6Mar. 1873 0 5 0 0 5 0Dec, 1872 | 20000 N 2000 N | orth Prince Patrick,* l, Holywell lorth Wheal Towan, t, c, Illogan | 6 16 8 | 10 Richards and Company [L.] | 4 0 0 80 0 0 40 4 |
| 5000 18000 | Denglish and Australian, c† 8. Aust. 2 10 | 0 = | 0 5 0 0 5 0Dec. 1872 0 4 0 0 4 0Jan. 1873 6 0 0 3 0 0July 1873 | 10000 N 1000 N 8000 N | ew East Lovell, t, Wendron ew Hendra, t, Breage ew Hob's Hill, t, Liskeard* New North Taman; ** J, Beerferris ew Pembroke, t, c, Par Station ew Rosewarne, c, Gwinear ew South Merllyn, i, Flint* ew South Merllyn, i, Flint* ew South Merllyn, i, Flint* ew South Rosewarne, t, Gwinear few Went Rosewarne, t, Gwinear few West Beton, c, Camborne sorth Laxey* forth Prince Patrick, * J, Holywell orth Wheal Towan, t, c, Illogan forth Pool, c, Illogan (Reserve 2800) forth Rosewarne, t, Gwinear forth Trieslejf Wood, t, Refruth* forth Treskerby, c, St. Agnes | 2 0 0 1 . 3/4 1 6 12 6 — . 1 0 0 1 3/4 1 | 50 Ditto New | 10 0 0 13½ 1 50 0 0 26 2 |
| 10000 | Pontgibaud, s-l, France† 20 0 Port Phillip, g, Clunes*† 1 0 | 0 21 19 21 | 15 16 8 0 19 9June 1874 1 8 0 0 1 0Jan. 1872 | 5936 N 2000 C | orth Treskerby, c, St. Agnes | 8 12 10 — 1 10 0 — | 100 Bheepbridge Iron and Coal [L.] 50 Silkstone & Dodworth Cl. & Iron[L.] 8 Silkstone Fall Colliery Co. [L.] | 55 0 0 28 2: 22 0 0 — |
| 120000 112500 | Beottish Australian Mining Co.*† 1 0 Bierra Buttes, g, California*† 9 0 | 0 134 134 134 | 18 per centNov. 1874 1 8 0 0 2 0Dec. 1873 | 2500 C 4000 F | old Tincroft, c, t, Illogan* arbola, t, Camborne* | 2 0 0 3½ 3 3½ 4 0 0 4½ 4 4½ 5 0 0 5½ 5 5½ | 20 Skerne Ironworks [L.] 80 Somorrostro Iron Co. [L.] 20 South Wales Coal Co. [L.] | 20 0 0 50 0 0 |
| \$25300 15000 | 0 Port Phillip, g, Clanes* 1 0 | les dealt in) 275 285 | 0 14 2 0 2 0Nov. 1873 10 p. ct. for ½ yearDec. 1874 | 16923 H 2000 H 12000 F | enhale Wheal Vor, t, c, Helston* 16 | 8 0 0 % 34 % 8 18 0 | 100 Nant-y-Glo and Blains (8 p. c. pref.) 10 Neespeand Rolling Mills [L.]. 1 Nerbudda Coal and Iron 20 New Sharlston Collieries [L.] Pref. 10 Newport Abercarn Coal Co. [L.]. 10 Northfield Iron Co. [L.]. 11 Northfield Iron Co. [L.]. 12 Northfield Iron Co. [L.]. 13 Falmer's Shipbuilding and Iron [L.]. 14 Parkgate Iron Co. [L.]. 15 Patent Shaft and Axietree [L.]. 16 Parenix Bassemer Co. [L.]. 17 Price Iron Iron Iron Iron Iron Iron Iron Iron | 60 0 0 60 6: 10 0 0 101/ 1 |
| \$0008 \$00 | Tolima, g, s* (6000 sh. are £5 f. pd.) 4 10 Westphalian, s-l, c, Prussia* 20 0 | 00 \$34 \$34 | 54 0 020 0 0 Dec. 1873 | 16000 H 12000 H | erkins Beach, l, Salop* | 1 0 0 14 14 14 | 20 South Cleveland Ironworks [L.] 10 Swansea Valley Steam Coll. Co. [L.]. | 20 0 0 12 10 |
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| 20000 20000 | Anglo-Australian, g, Victoria* | 2 10 0 2 10 0 | 1% 1% 1% Fully pd. | 5889 I | losewall Hill and Ransom, t | 4 5 0 36 36 | 1 United Bituminous Collieries [L.] 10 Vancouver Coal [L.] | 1 0 0 |
| 80000 50000 | Blue Tent, hyd., California Braganza, g, Brazil*† | 5 0 0 | 534 5 534Fully pdFully pdFully pdPully pd | 3000 F 6123 E | outh Condurrow, t, c, Camborne ! | 0 6 0 6 5 6 5 4 4 4 4 4 | 50 Welsh Ironworks Co. [L.] | 50 0 0 50 20 0 0 10 |
| \$5000 \$0152 | Cesena Sulphur Company, Romanga, Itali Chontales, g, s, Nicaragua*† (and 12.542 of | y* | Fully pdFully pd. | 5000 B | bouth Great Work, f, St. Hilary 1 bouth Kit Hill, f, Callington* | 2 5 0 1% 1 1% 2 14 0 — 1 0 0 — | 10 West Mostyn Coal [L.] (12 p.c.pref.) 5 West Swanses Colliery Co. [L.] | 3 0 0 34 5 0 0 |
| 10000 10000 | Mines. Anglo-Australian, g, Victoria* Anstralian United, g, Victoria*; Bellavista, s, Peru' (£10 shares) Blue Tent, hyd., California Braganza, g, Brazil*; Camp Floyd, s, Utah* Comp Floyd, s, Utah* Chontales, g, s, Nicaragaa*! (and 12,642 of Clifton, s, Colorado* O Culfton, s, Chorado* O Cuia, g, Flumas County, California* O Cuiaba, g, Minas Geraes, Brazil* | 5 0 0 10 0 0 | Feb. 1872 Fully pd. | 12000 B | outh Lisburne, l, bl, Cardigan* | 0 12 6 — | 10 Whitehaven Iron Co. [L.] 100 Wigan and Whiston Coal Co. [L.] 100 Wigan Coal and Iron Co. [L.] | 70 0 0 |
| 10000 85000 | Douglas, s, Georgetown, Col | alifornia* 6 0 0 | — June 1872 — Fully pd. Dec. 1871 | 18000 E | outh Roman Gravels, I, Salop* 1 | 1 10 0 1 % 1 | WAGON COMPA | NIES. |
| 60000 65000 60000 | Exchequer, g, s, California* Frontino and Bolivia, g, New Granada*† General Brazilian, g* | 1 0 0 2 0 0 | | 12000 B | outh Ward, l, Beerferris | 1 0 0 3 0 0 1½ 1 1½ | | |
| 10000 40000 | 0 Cuiaba, g, Minas Geraes, Brazil* 0 Douglas, s, Georgetown, Col. 10 Excelsior Hydraulle Gold Washing Co., Ci. 11 Excelsior Hydraulle Gold Washing Co., Ci. 12 Exchequer, g, s, California*. 13 Frontino and Bolivia, g, New Granada*†. 14 General Brazilian, g* 15 Georget Tunnel Co., Georgetown, Col. 16 Holocombe Valley, g, ** California*. 16 Hornachos, ** s-!, (£lo shares) Spain 17 Independence, g, California* 18 La, L., g, s, California* 19 Lavali, g, Nicaragua* 10 Lanestosa, *!, z, Viscaya, Spain (£2 shares 10 London and California g*† 10 London and California g*† 11 Malabar, g, Colombia* (65000 Issued) | 7 00 | —Fully pdFully pdFully pdJuly 1878 | 937 B 496 B 6000 B | tussell, s. f., Swymbridge. outh Condurrow, t. c., Camborne f. outh Dolcouth, c. t., Redruth. outh Mill. C. allington* outh Kit Hill, t. Callington* outh Missell, t. f. c. Lindington* outh Missell, t. c. Lindington* outh Margaret, t. Judgvan outh Phenix, t. c., Linkinhorne* outh Roman Gravels, l. Salop* outh Roman Gravels, l. Salop* outh Roman Gravels, t. Camborne. outh Tolcarne, t. c. Camborne. outh Yan, l. Montgomeryshire outh Ward, l. Beerferris outh Ward, l. Beerferris outh Ward, l. Salop* outh Ward, s. Salop* outh Ward, l. Salop* t. Holgan, 38 outh Wheal Crofty, c. Hlogan, 38 outh Wheal Kitty, t. St. Agnes t. Agnes Consols, t. St. Agnes t. Lawrence, Amal., l. Flintshire* t. Lawrence, Amal., l. Flintshire* t. Patrick, l. Halkin, Holywell* uncess, & c., l. Derb. (12,000). called). amar Consols, s. l. Lifton, Devon | 5 10 10. 16 9 11 8 3 9 10 8 10 | 10 Birmingham Wagon Co. [L.] | 5 0 0 334 50 0 0 42 4 |
| 20000 20000 | Imperial Brazilian Collieries, Brazil* Independence, g, California* | 5 0 0 | –Jan. 1874 – Fully pd. 814 814 334Fully pd. | 14000 B | t. Agnes Consols, t* t. Blazey t.* (£2 10s. shares) | 5 6 0 5½ 6 9 0 0 1½1½ 1½ | 20 North Central Wagon Co. [L.] 10 North of England Wagon Co. [L.] 10 Parkgate Wagon Co. [L.] | 3 10 0 par. 5 0 0 354 |
| \$0000 \$0000 12000 | Javali, g, s, California* Javali, g, Nicaragua* Lanestosa,* l, z, Viscava, Spain (82 above) | 5 0 0 | 16 16. 16. 16. 16. 16. 16. 16. 16 | 940 B 6000 B | t. Ives Consols, t, St. Ives | 1 0 0 1½ 1 1½ 2 15 0 1½1½ 1½ 2 0 0 — | 20 Sheffield Wagon Co. [L.] | 15 0 0 434 10 0 0 434 |
| 200 | Malabar, g. Colombia, (**) | 2 0 0 | % % Fully pd Fully pd Fully pd. | 6000 B | t. Patrick, l, Halkin, Holywell* | 1 0 0 11/6 1 11/6 | TELEGRAPH COMI | PANTES |
| 75000 | Malaga / G1-# | | Fully pd. | 3879 T | amar Valley, s-l, Beeralston | 1 0 0 1 % 1 1 10 0 0 5 0 1 % 1 | "Bt." Angio-American 10 Brazilian Submarine 20 Direct United States Cable 10 Eastern 10 East. Exten., Australia and China 10 Great Northern | 10 0 0 736 20 0 0 10 1 |
| 75000 4000 4000 12000 | Malaga, i, Spain* | , 18s. paid) 1 0 0 | Puller of | · · · · · · · · · · · · · · · · · · · | in Valley St West | 1 0 0 | 10 East. Exten., Australia and China | AT W Vere 173 |
| 75000 4000 4000 12000 14000 6000 | Malags, i, Spain* Malpaso, g, Oolombia* (10000 pref, shares,) Menzenberg, c, Honnef, Germany* Montague & Waverley Gold Quartz Crushin Monte Loreto, g, c, Italy* New Pacific, a, s, Nowada* | , 18s. paid) 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 | Fully pd. | 3526 7 5000 7 | releigh Wood, t, Redruth | 4 13 0 7 5 7 | 10 Great Northern | 10 0 0 736 |
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